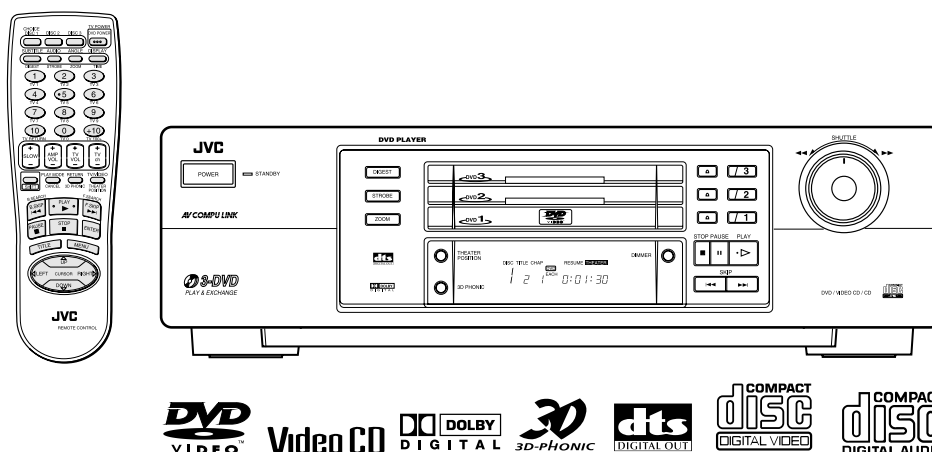


JVC

SERVICE MANUAL

DVD PLAYER

XV-M565BK/M567GD



Areas suffix

J ----- U.S.A.
C ----- Canada

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Safety Precautions

1. This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (Δ) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.

5. Leakage current check (Electrical shock hazard testing)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

Do not use a line isolation transformer during this check.

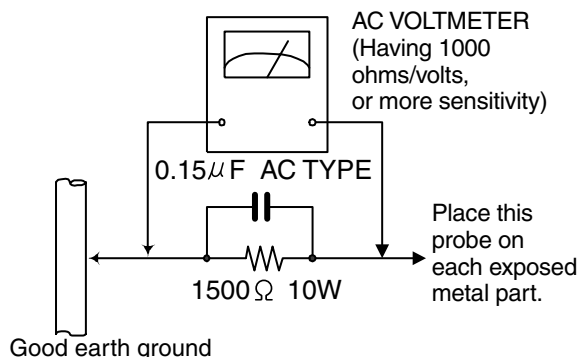
- Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.)

● Alternate check method

Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 Ω 10W resistor paralleled by a 0.15 μ F AC-type capacitor between an exposed metal part and a known good earth ground.

Measure the AC voltage across the resistor with the AC voltmeter.

Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. voltage measured Any must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

CAUTION Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of preforming repair of this system.

Important for Laser Products

1.CLASS 1 LASER PRODUCT

2.DANGER : Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.

3.CAUTION : There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.

4.CAUTION : The compact disc player uses invisible laserradiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.

5.CAUTION : If safety switches malfunction, the laser is able to function.

6.CAUTION : Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.



CAUTION Please use enough caution not to see the beam directly or touch it in case of an adjustment or operation check.

WARNING : Osynlig laserstrålning är denna del är öppnad och spårren är urkopplad. Betrakta ej strålen.

VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

ADVARSEL : Usynlig laserstrålning ved åbning , når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

ADVARSEL : Usynlig laserstrålning ved åbning, når sikkerhedsbryteren er avslott. unngå utsettelse for stråling.

REPRODUCTION AND POSITION OF LABELS

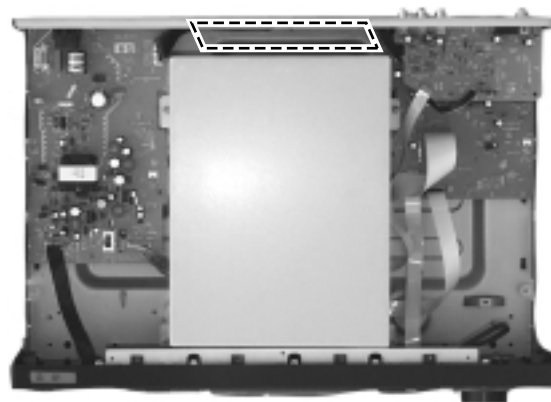
WARNING LABEL

DANGER : Invisible laser radiation when open and interlock or defeated.
AVOID DIRECT EXPOSURE TO BEAM (e)

VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen. (d)

WARNING : Osynlig laserstrålning är denna del är öppnad och spårren är urkopplad. Betrakta ej strålen. (s)

ADVARSEL : Usynlig laserstrålning ved åbning , når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling. (f)



Preventing static electricity

Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs.

1.1. Grounding to prevent damage by static electricity

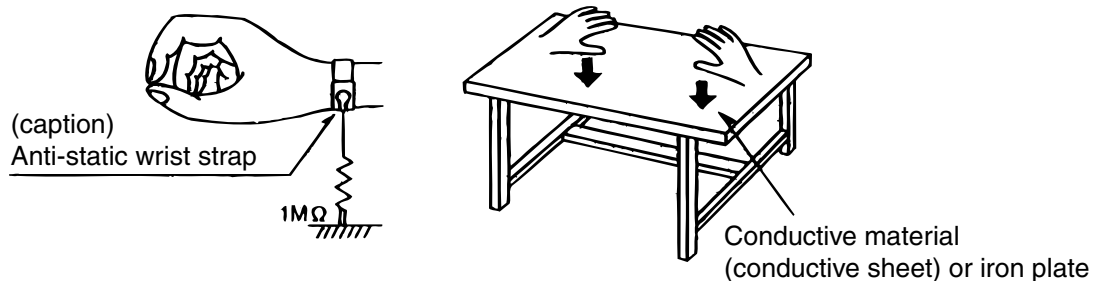
Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as DVD players. Be careful to use proper grounding in the area where repairs are being performed.

1.1.1. Ground the workbench

1. Ground the workbench by laying conductive material (such as a conductive sheet) or an iron plate over it before placing the traverse unit (optical pickup) on it.

1.1.2. Ground yourself

1. Use an anti-static wrist strap to release any static electricity built up in your body.



1.1.3. Handling the optical pickup

1. In order to maintain quality during transport and before installation, both sides of the laser diode on the replacement optical pickup are shorted. After replacement, return the shorted parts to their original condition. (Refer to the text.)
2. Do not use a tester to check the condition of the laser diode in the optical pickup. The tester's internal power source can easily destroy the laser diode.

1.2. Handling the traverse unit (optical pickup)

1. Do not subject the traverse unit (optical pickup) to strong shocks, as it is a sensitive, complex unit.
2. Cut off the shorted part of the flexible cable using nippers, etc. after replacing the optical pickup. For specific details, refer to the replacement procedure in the text. Remove the anti-static pin when replacing the traverse unit. Be careful not to take too long a time when attaching it to the connector.
3. Handle the flexible cable carefully as it may break when subjected to strong force.
4. It is not possible to adjust the semi-fixed resistor that adjusts the laser power. Do not turn it

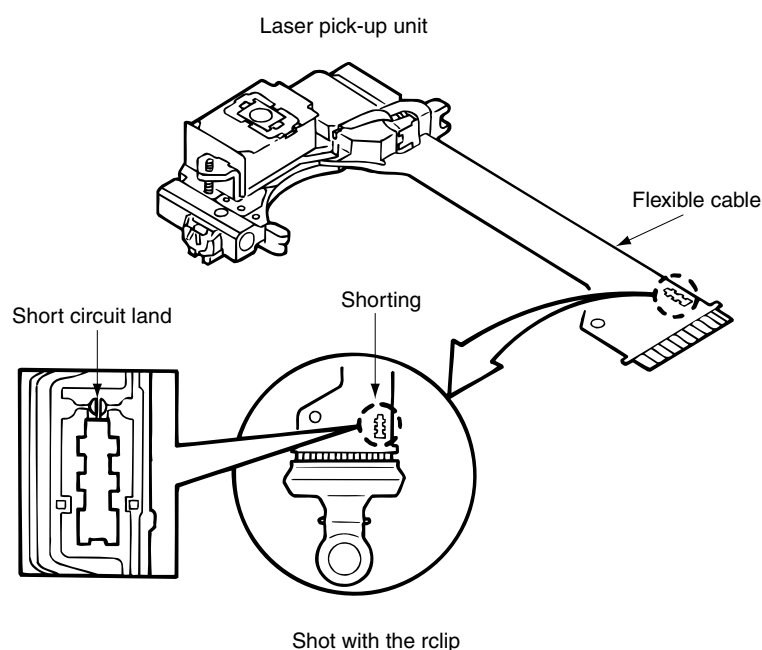
Dismantling and assembling the traverse unit

1. Notice regarding replacement of optical pickup

Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs to the optical pickup or connected devices.

(Refer to the section regarding anti-static measures.)

1. Do not touch the area around the laser diode and actuator.
2. Do not check the laser diode using a tester, as the diode may easily be destroyed.
3. It is recommended that you use a grounded soldering iron when shorting or removing the laser diode.
Recommended soldering iron: HAKKO ESD-compatible product
4. Solder the land on the optical pickup's flexible cable.
 - Note : Short the land after shorting the terminal on the flexible cable using a clip, etc., when using an ungrounded soldering iron.
 - Note : After shorting the laser diode according to the procedure above, remove the solder according to the text explanation.



Disassembly method

<Main body>

■ Removing the Top cover (See Fig.1)

1. Remove the two screws A attaching the top cover on the back of the body.
2. Remove the four screws B attaching the top cover on both sides of the body.
3. Pull the lower parts of the top cover sides and remove the top cover in the direction of the arrow.

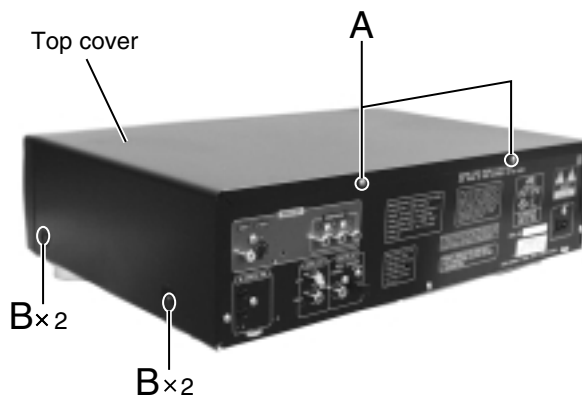


Fig.1

■ Removing the Front panel assembly (See Fig.2 to 5)

- Prior to performing the following procedure, remove the top cover.
1. Disconnect the harness from connector CN971 and CN972 on the power supply board.
 2. Disconnect the card wire from connector CN703 on the system control board.
 3. Remove the three screws C attaching the front panel assembly on the bottom of the body.
 4. Release the joint a on the bottom and the two joints b on both sides of the body. Remove the front panel assembly toward the front.

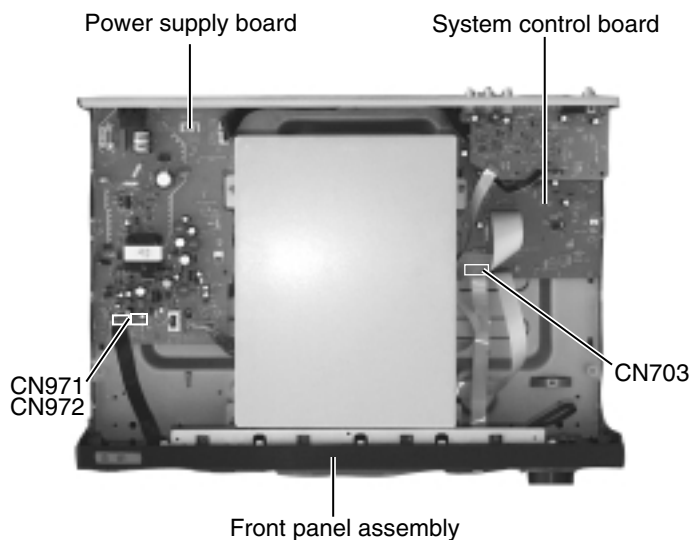


Fig.2

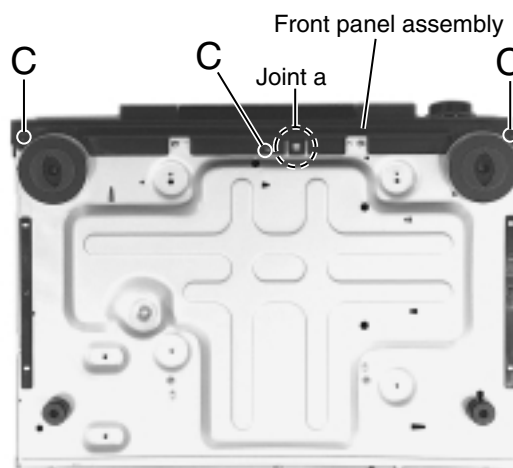
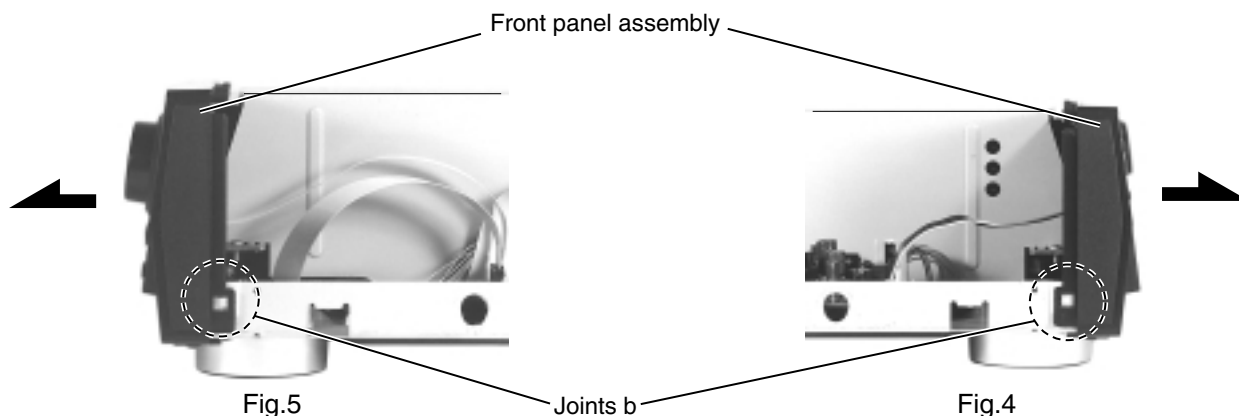


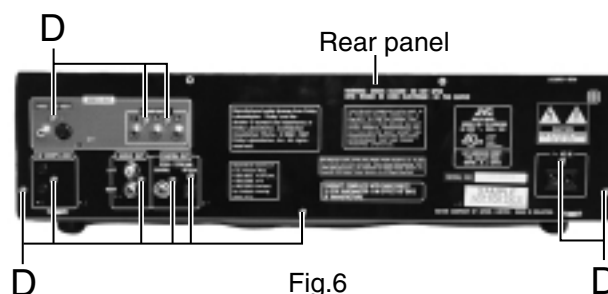
Fig.3



■ Removing the Rear panel (See Fig.6)

- Prior to performing the following procedure, remove the top cover.

1. Remove the eleven screws D attaching the rear panel on the back of the body and detach the rear panel.

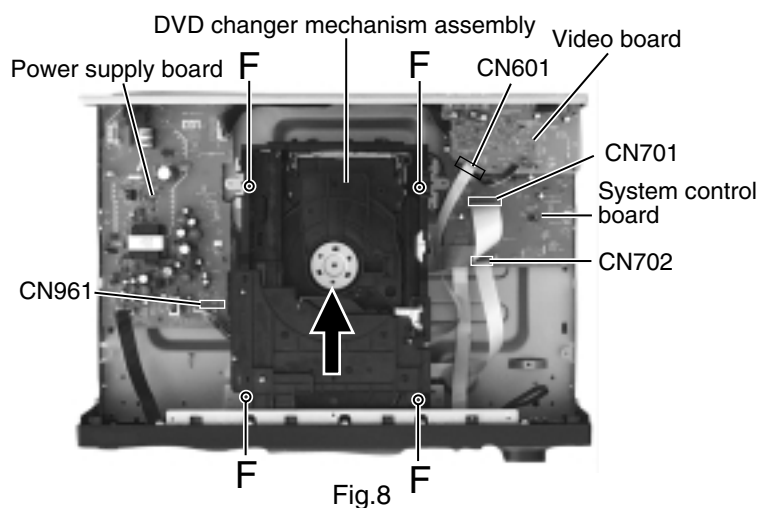
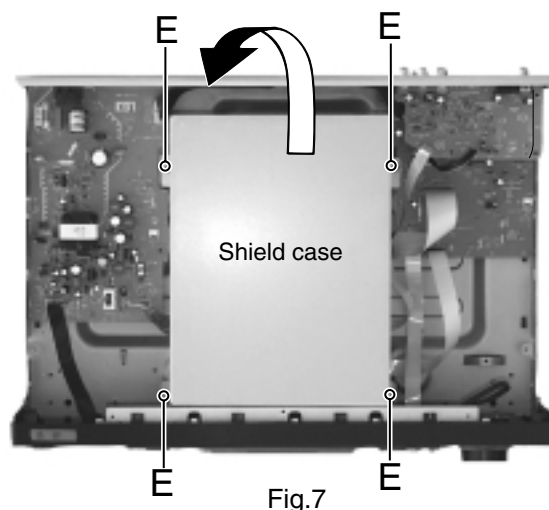


■ Removing the DVD changer mechanism assembly (See Fig.7 and 8)

- Prior to performing the following procedure, remove the top cover.

- The DVD changer mechanism assembly can be removed even if the front panel assembly is attached.

1. Remove the four screws E attaching the DVD changer mechanism assembly cover and detach the shield case at an angle.
2. Disconnect the 9pin harness from connector CN961 on the power supply board.
3. Disconnect the card wire from connector CN601 on the video board.
4. Disconnect the card wires from connector CN701 and CN702 on the system control board.
5. Remove the four screws F attaching the DVD changer mechanism assembly. Pull up the DVD changer mechanism assembly at an angle from the front panel assembly.



■ Removing the Power supply board (See Fig.9 and 10)

- Prior to performing the following procedure, remove the top cover.
1. Disconnect the harness from connector CN971 and CN972 on the regulator board (The harness is extending from the front panel assembly).
 2. Disconnect the 9pin harness from connector CN961 on the power supply board (The harness is extending from the DVD changer mechanism assembly).
 3. Disconnect the harness from connector CN951 and CN952 on the power supply board (The harness is extending from the system control board).
 4. Remove the screw D attaching the AC jack on the rear panel.
 5. Remove the two screws G attaching the power supply board and detach the power supply board.

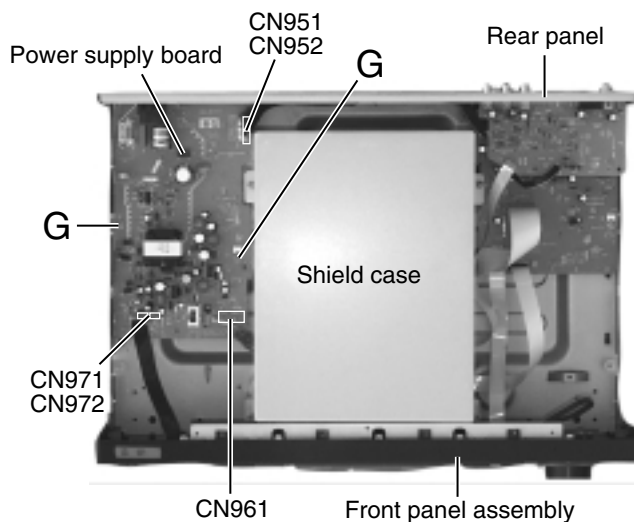


Fig.9

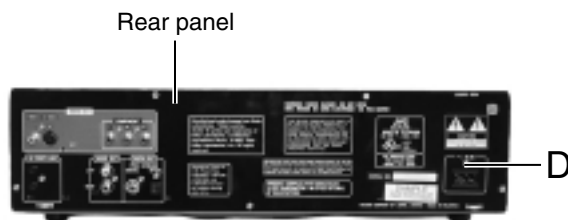


Fig.10

■ Removing the Video board (See Fig.11 and 12)

- Prior to performing the following procedure, remove the top cover.
1. Disconnect the card wire from connector CN601 on the video board (The card wire is extending from the DVD changer mechanism assembly).
 2. Disconnect the harness from connector CN704 on the system control board (The harness is extending from the video board).
 3. Remove the three screws D attaching the video board on the rear panel. Pull out the video board from the rear panel.

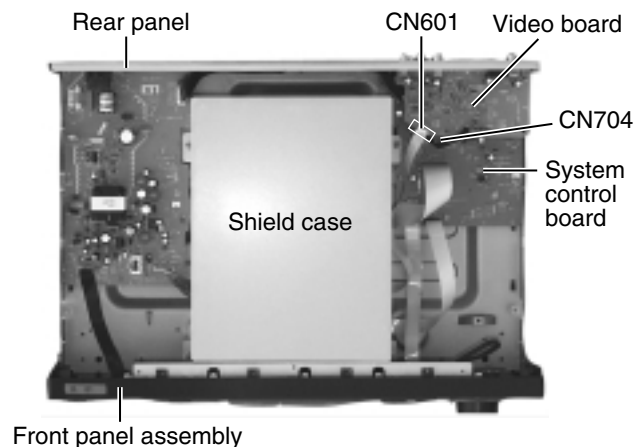


Fig.11

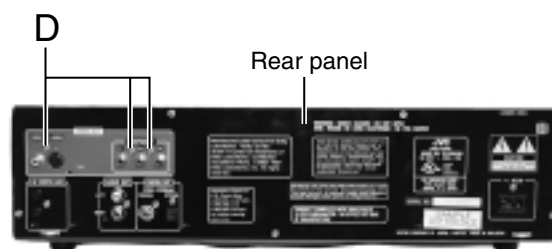


Fig.12

■ Removing the System control board (See Fig.13 and 14)

- Prior to performing the following procedure, remove the top cover.
 - The audio board can be removed even if the video board is attached.
1. Disconnect the card wire from connector CN703 on the system control board (The card wire is extending from the front panel assembly).
 2. Disconnect the card wire from connector CN701 and CN702 on the audio board (The card wires are extending from the DVD changer mechanism assembly).
 3. Disconnect the harness from connector CN704 on the system control board (The harness is extending from the video board).
 4. Disconnect the harness from connector CN951 and CN952 on the power supply board (The harness is extending from the system control board).
 5. Remove the screw H attaching the system control board.
 6. Remove the five screws D attaching the system control board on the rear panel. Pull out the system control board toward the front.

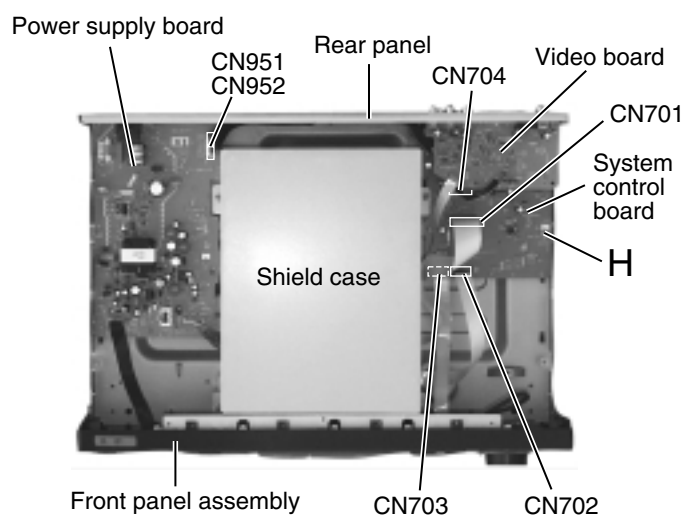


Fig.13

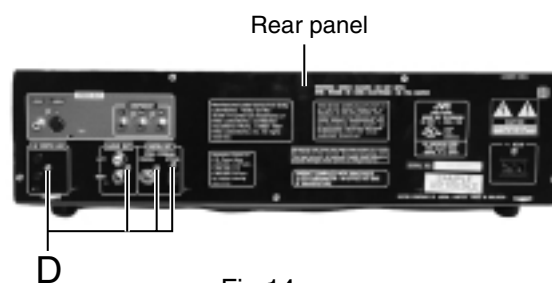


Fig.14

<Front panel assembly>

- Prior to performing the following procedure, remove the top cover and the front panel assembly.

■ Removing the Front board (See Fig.15)

1. Remove the four screws I attaching the bracket on the back of the front panel assembly. Remove the bracket.
2. Unsolder the terminal FW802 of the harness connecting the FL indicator board and the volume board.
3. Remove the eight screws J and the FL indicator board.

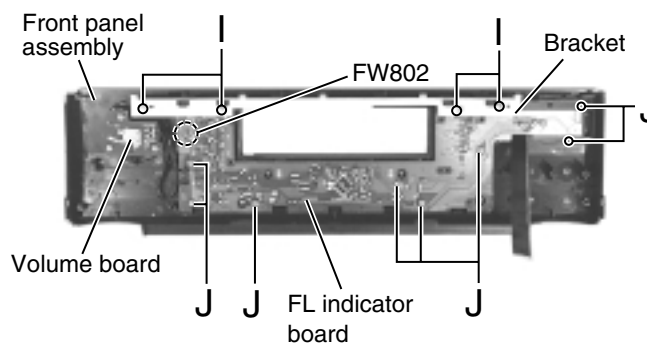


Fig.15

■ Removing the Volume board (See Fig.16 and 17)

1. Pull out the shuttle knob on the front panel assembly.
2. Unsolder the terminal FW802 on the back of the front panel assembly (The harness of FW802 is connecting the volume board and the FL indicator board).
3. Remove the three screws K and the volume board.

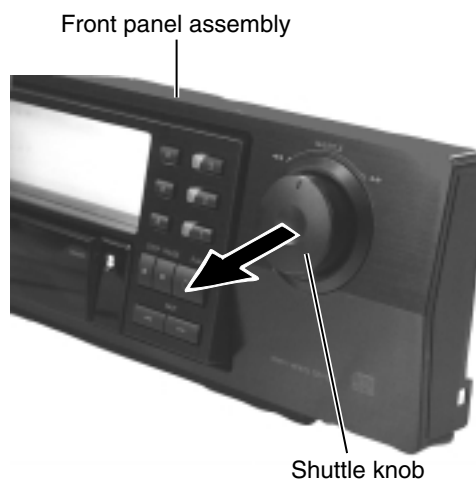


Fig.16

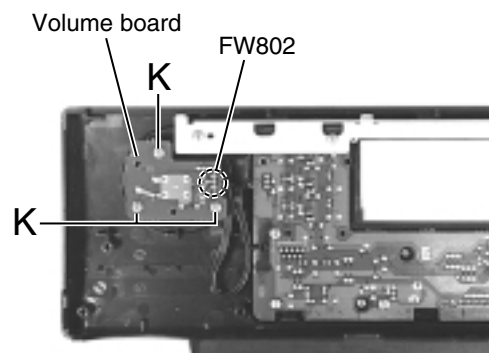


Fig.17

<DVD Changer Mechanism Assembly>

- Prior to performing the following procedure, remove the top cover and the DVD changer mechanism assembly.

■ Removing the traverse mechanism control board (See Fig.18)

1. Disconnect the card wire from connector CN101 on the traverse mechanism control board on the bottom of the DVD changer mechanism assembly.
2. Remove the screw L attaching the traverse mechanism control board. Release the three parts e, f and g and remove the traverse mechanism control board.
3. Disconnect the card wire from connector CN102 on the traverse mechanism control board.

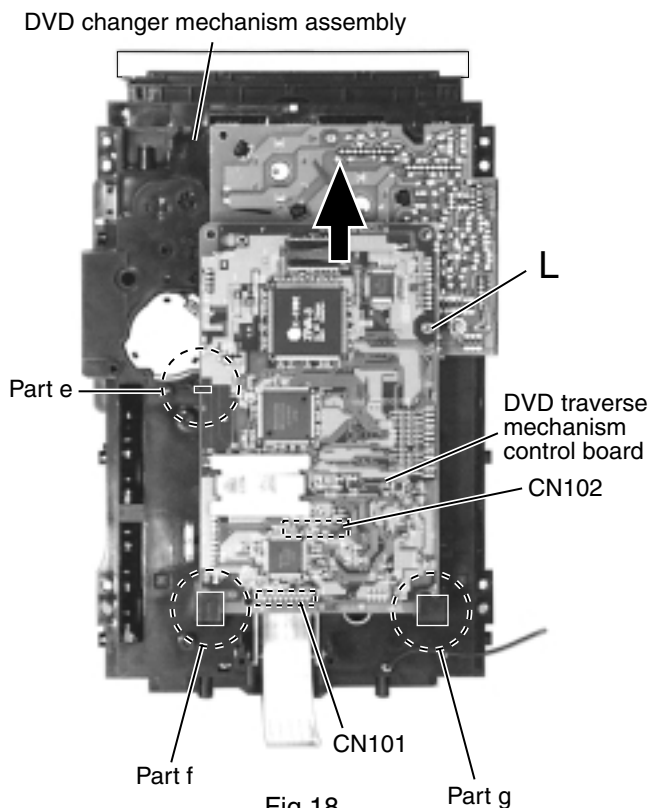


Fig.18

Ejecting the DVD (See Fig.19 and 20)

■ When the DVD is set or the traverse mechanism is up.

- ※ The DVD tray can not be ejected when the traverse mechanism is up.

■ Bringing down the traverse mechanism as shown in the Fig.20

1. The motor pulley and the belt can be seen on the front side of the changer. Turn the motor pulley clockwise until the belt stops.
2. Pull the tray lock lever on the left side of the changer and draw the DVD tray.
3. Draw the DVD tray 1 to 3 as above.

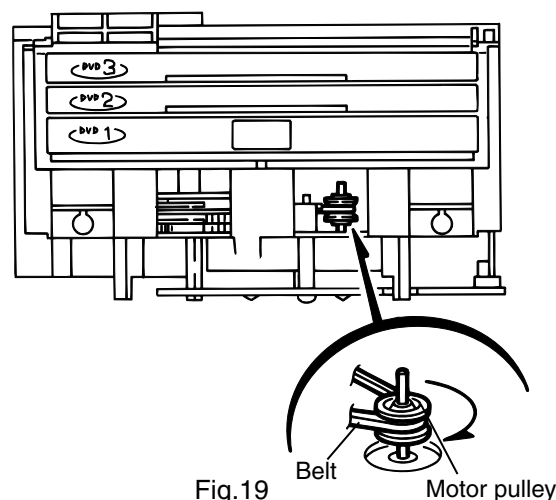


Fig.19

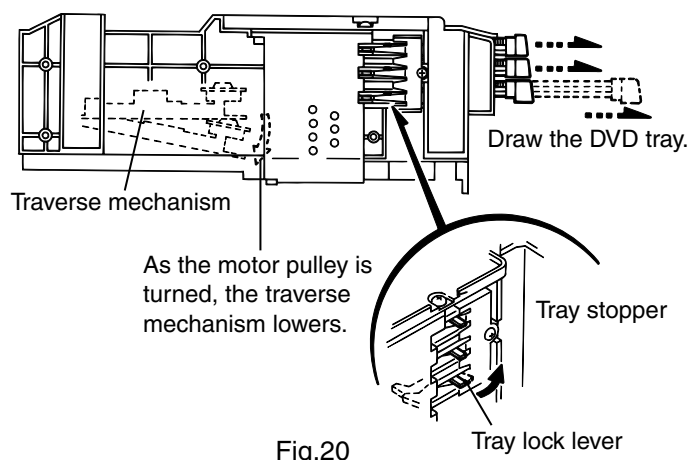


Fig.20

<DVD Changer Mechanism Section>

■ Removing the DVD mechanism board (See Fig.1)

1. Remove the DVD mechanism assembly cover.
2. Remove the DVD changer mechanism assembly.
3. From bottom side the DVD changer mechanism assembly, remove the one screw A retaining the DVD traverse mechanism control board.
4. Disconnect the card wire from the connectors CN101 and CN102 on the DVD traverse mechanism control board.
5. Disengage the one engagement a and two engagements b, remove the DVD traverse mechanism control board.

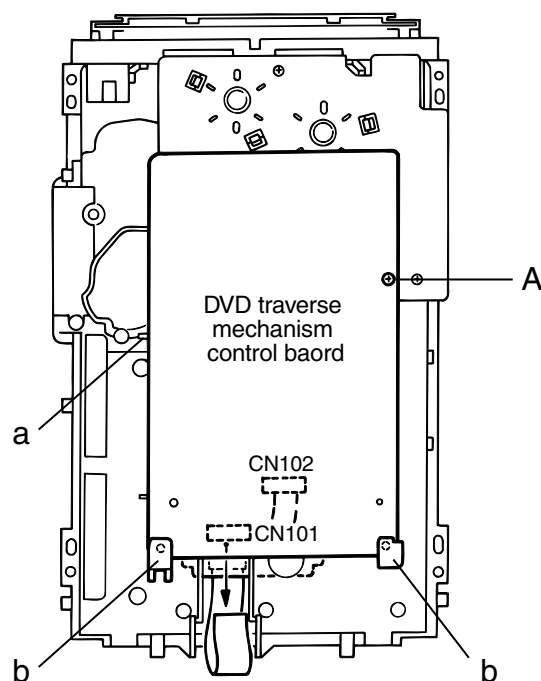


Fig.1

■ Removing the DVD tray assembly (See Fig.2~4)

1. Remove the front panel assembly.
2. Remove the DVD changer mechanism assembly.
3. Remove the DVD traverse mechanism control board.
4. Remove the screw B retaining the Disc stopper (See Fig.3).
5. Remove the three screws C retaining the T.bracket (See Fig.3).
6. From the clamber base section c, remove both of the edges fixing the rod (See Fig.2 and 3).
7. Remove the screw D retaining the clamber assembly (See Fig.3).
8. From the left side face of the chassis assembly, remove the one screw E retaining both of the return spring and lock lever (See Fig. 4).
9. By removing the pawl at the section d fixing the return spring, dismount the return spring (See Fig.4).
10. Remove the three lock levers (See Fig.4).

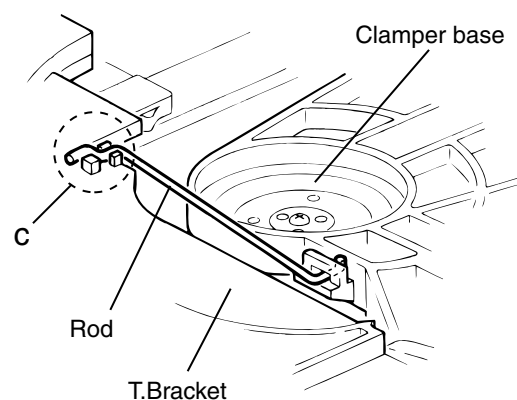


Fig.2

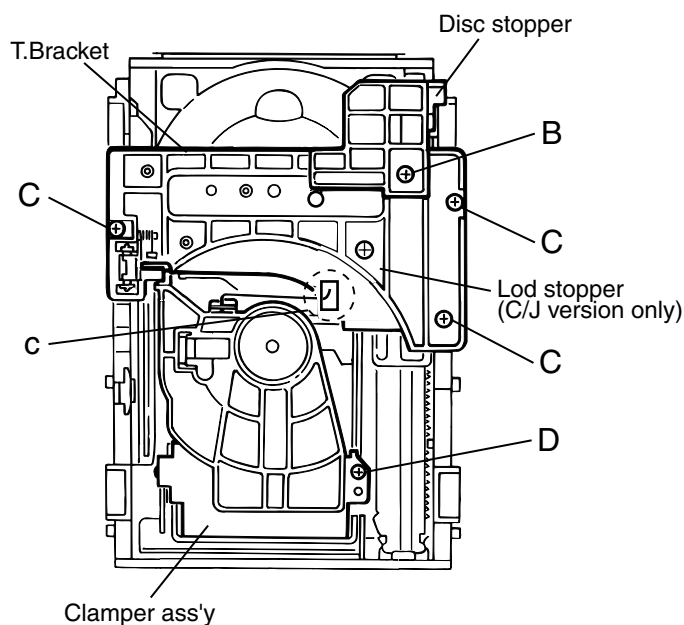


Fig.3

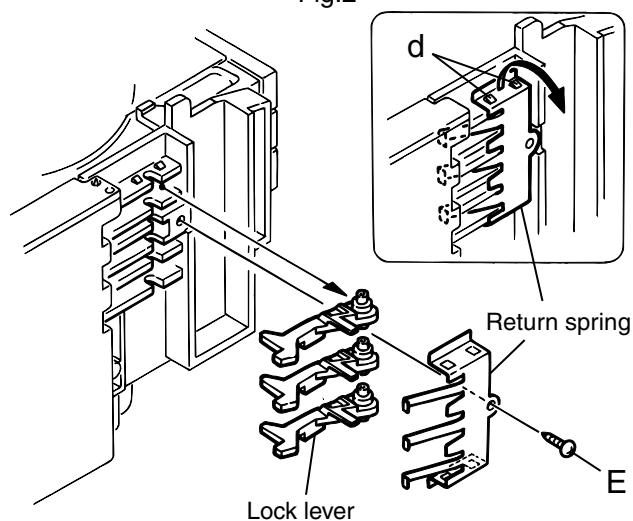


Fig.4

11. Check whether the lifter unit stopper has been caught into the hole at the section e of DVD tray assembly as shown in Fig.5.
12. Make sure that the driver unit elevator is positioned as shown in Fig.6 from to the second or fifth hole on the left side face of the DVD Traverse mechanism assembly.

[Caution] In case the driver unit elevator is not at above position, set the elevator to the position as shown in Fig.7 by manually turning the pulley gear as shown in Fig.8.

13. Manually turn the motor pulley in the clockwise direction until the lifter unit stopper is lowered from the section e of DVD tray assembly (See Fig.8).
14. Pull out all of the three stages of DVD tray assembly in the arrow direction f until these stages stop (See Fig.6).
15. At the position where the DVD tray assembly has stoppend, pull out the DVD tray assembly while pressing the two pawls g and g' on the back side of DVD tray assembly (See Fig.9). In this case, it is easy to pull out the assembly when it is pulled out first from the stage DVD tray assembly.

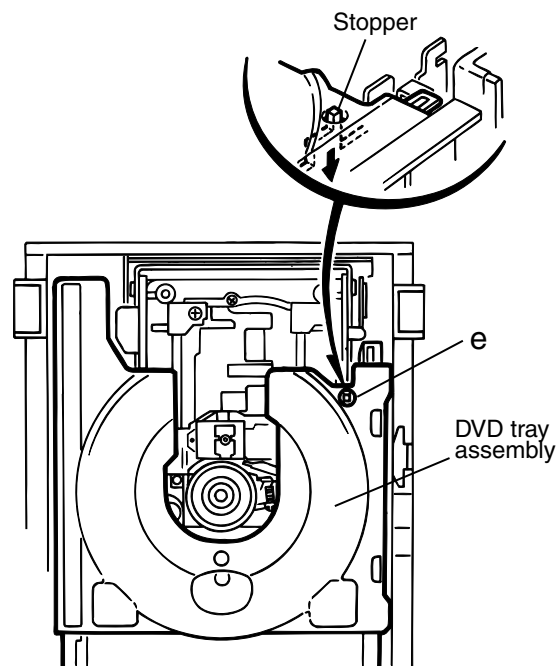


Fig.5

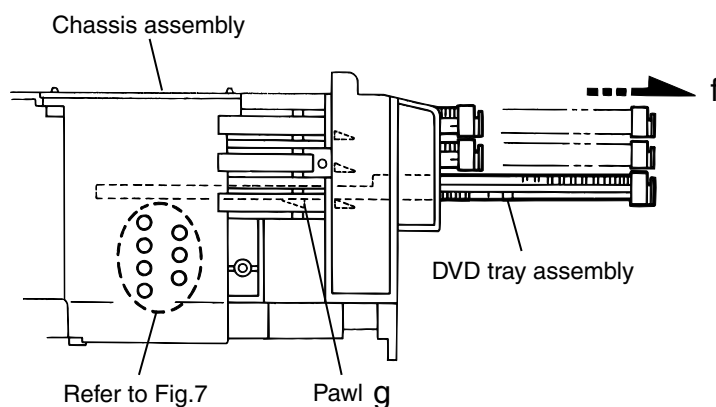


Fig.6

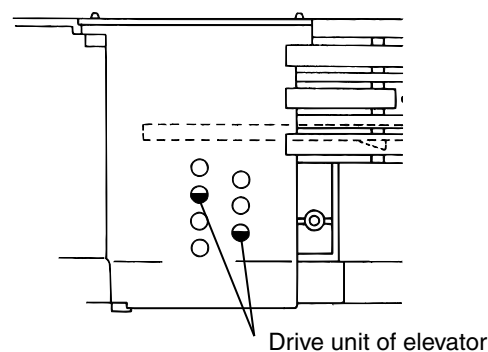


Fig.7

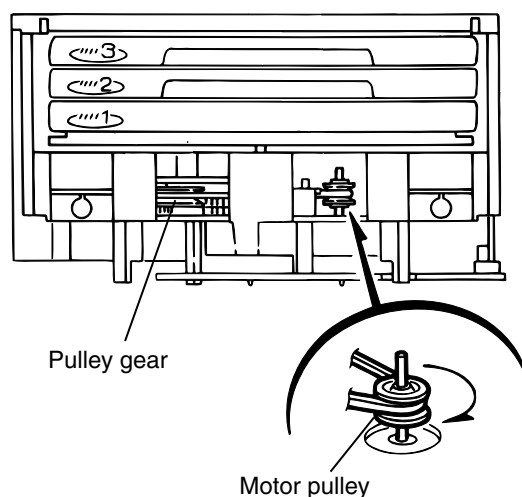


Fig.8

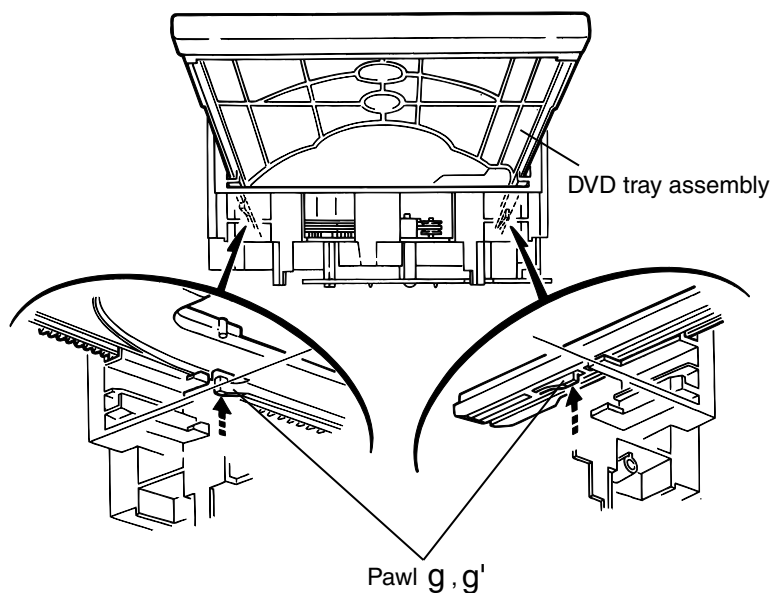


Fig.9

■ Removing the DVD mechanism assembly(See Fig.10)

1. While turning the cams R1 and R2 assembly in the arrow direction h , align the shaft i of the DVD mechanism assembly to the position shown in Fig.10.
2. Remove the four screw F retaining the DVD mechanism assembly.

■ Removing the DVD mechanism (See Fig.11 and 12)

1. For dismounting only the DVD mechanism without removing the DVD mechanism assembly, align the shaft j of the DVD mechanism assembly to the position shown Fig.11 while turning the cam R1 and R2 assembly in the arrow direction k.
2. Remove the two screws G raising the DVD mechanism assembly.
3. Remove the DVD mechanism assembly in the arrow direction l from the lifter unit (See Fig. 12)

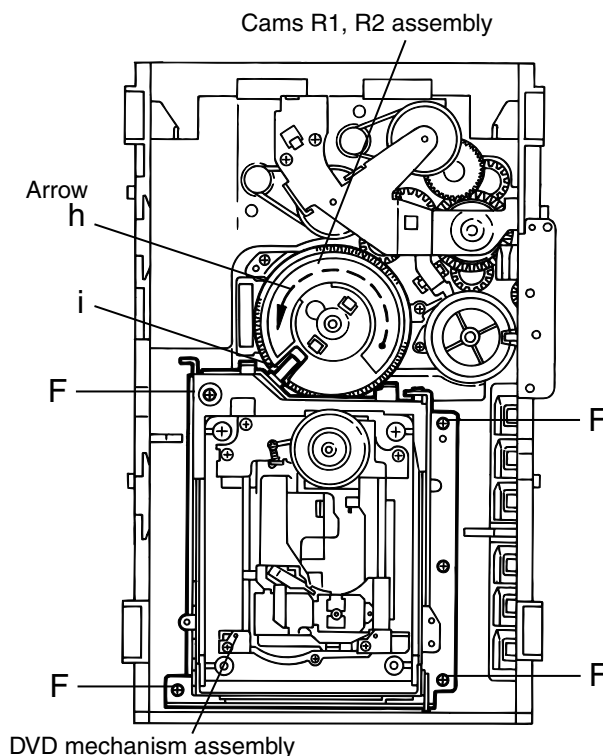


Fig.10

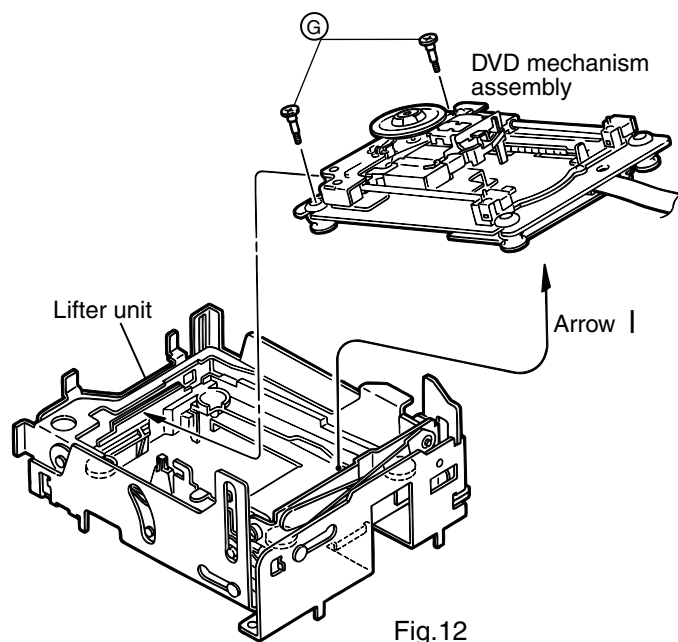


Fig.12

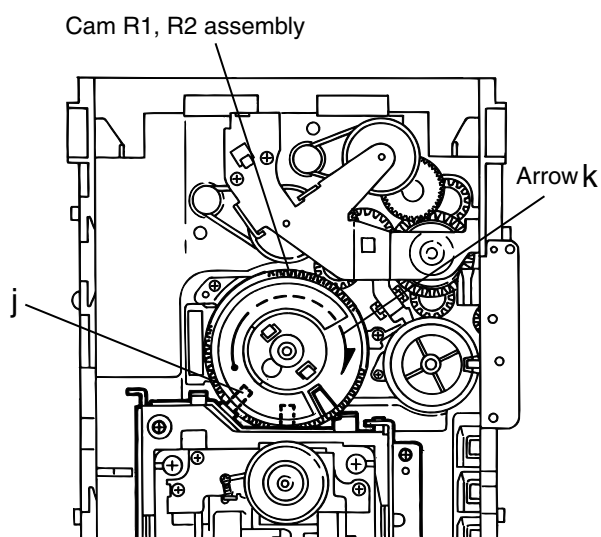


Fig.11

■ Removing the mechanism control board (See Fig.14, 15)

1. Absorb the four soldered positions m of the right and left motors with a soldering absorber(See Fig.14).
2. Remove the two screws H retaining the mechanism control board(See Fig.14).
3. Remove the two screws I retaining the tray select switch board(See Fig.15).

■ Removing the can unit (See Fig.15 ~ 18)

1. Remove the CD mechanism assembly.
2. While turning the cam gear L, align the pawl n position of the drive unit to the notch position(Fig.15) on the cam gear L.
3. Pull out the drive unit and cylinder gear(See Fig.17).
4. While turning the cam gear L, align the pawl o position of the select lever to the notch position(Fig.18) on the cam gear L.
5. Remove the four screws J retaining the cam unit(cam gear L and cams R1/R2 assembly)(See Fig.18).

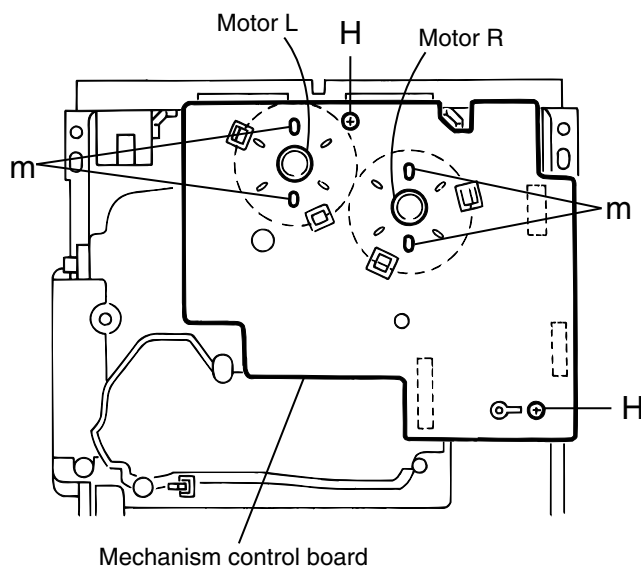


Fig.14

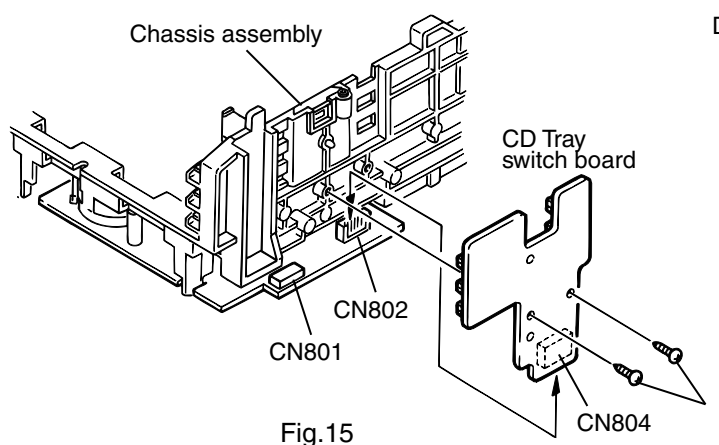


Fig.15

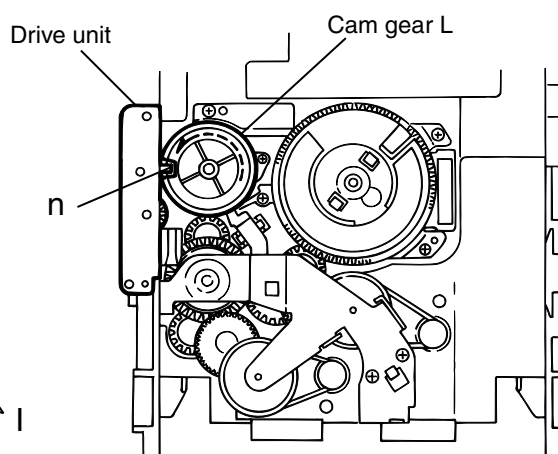


Fig.16

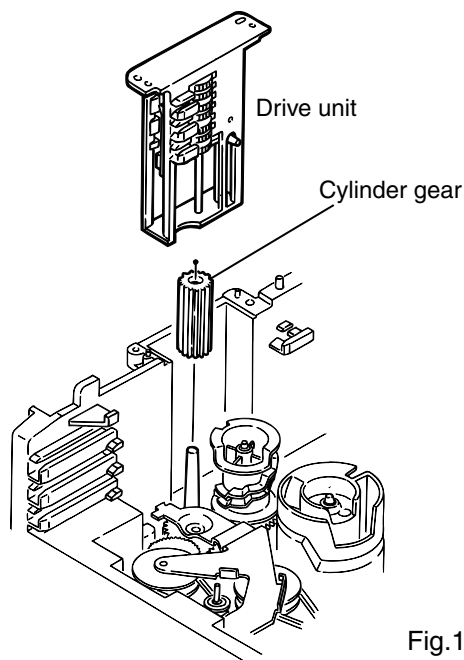


Fig.17

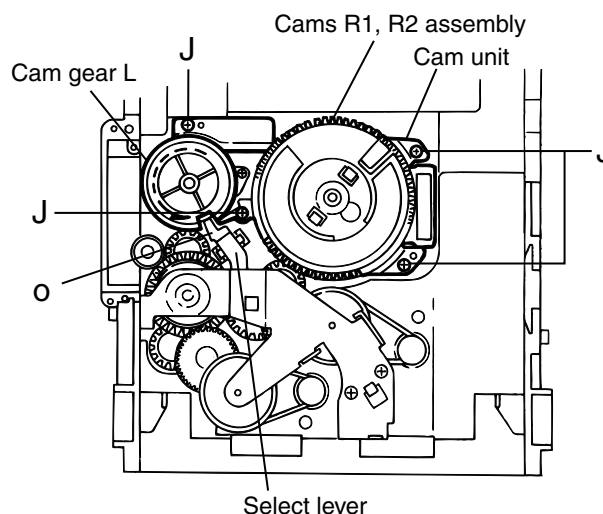


Fig.18

■ Removing the actuator motor and belt (See Fig.19~ 22)

1. Remove the two screws K retaining the gear bracket
(See Fig.19).
2. While pressing the pawl p fixing the gear bracket in the arrow direction, remove the gear bracket
(See Fig.19).
3. From the notch q section on the chassis assembly fixing the edge of gear bracket, remove and take out the gear bracket(See Fig. 20).
4. Remove the belts respectively from the right and left actuator motor pulleys and pulley gears(See Fig. 19).
5. After turning over the chassis assembly, remove the actuator motor while spreading the four pawls r fixing the right and left actuator motors in the arrow direction(See Fig. 21).

[Note] When the chassis assembly is turned over under the conditions wherein the gear bracket and belt have been removed, then the pulley gear as well as the gear, etc. constituting the gear unit can possibly be separated to pieces. In such a case, assemble these parts by referring to the assembly and configuration diagram in Fig. 22.

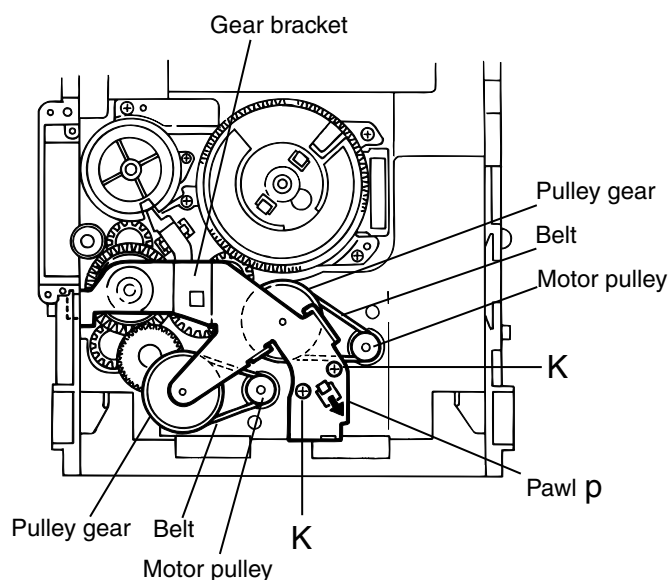


Fig.19

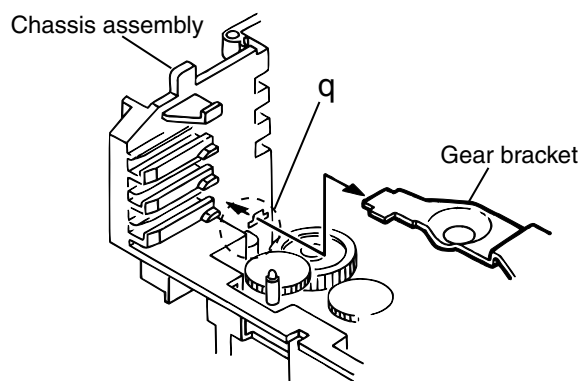


Fig.20

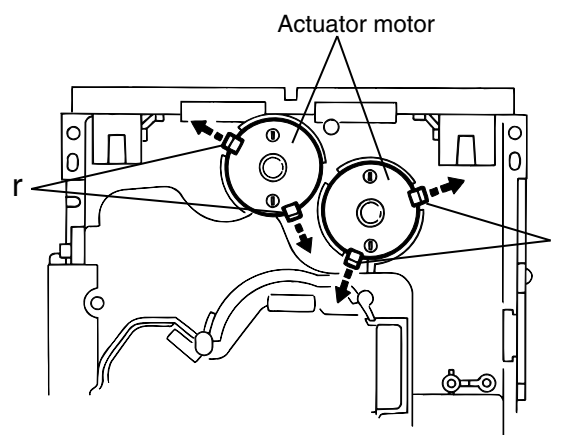


Fig.21

Assembly and Configuration Diagram

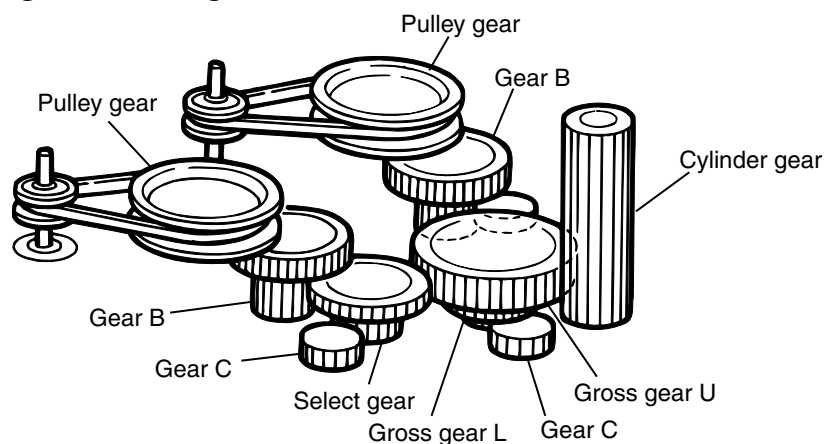


Fig.22

■ Removing the cams R1/R2 assembly and cam gear L (See Fig.23)

1. Remove the slit washer fixing the cams R1 and R2 assembly.
2. By removing the two pawls s fixing the cam R1, separate R2 from R1.
3. Remove the slit washer fixing the cam gear L.
4. Pull out the cam gear L from the C.G. base assembly.

■ Removing the C.G. base assembly (See Fig.23 and 24)

Remove the three screws L retaining the C.G. base assembly.

[Caution] To reassemble the cylinder gear, etc. with the cam unit (cam gear and cams R1/R2 assembly), gear unit and drive unit, align the position of the pawl n on the drive unit to that of the notch on the cam gear L. Then, make sure that the gear unit is engaged by turning the cam gear L.
(See Fig. 24).

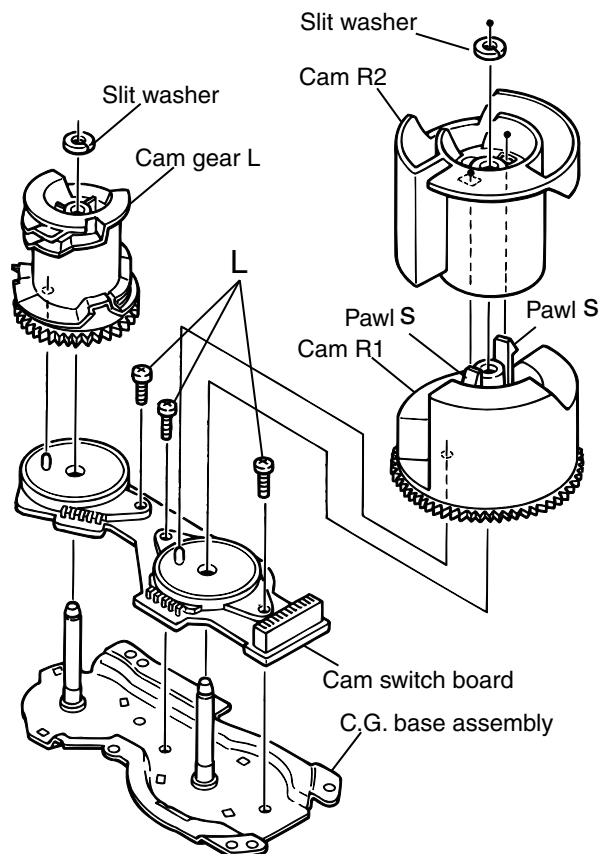


Fig.23

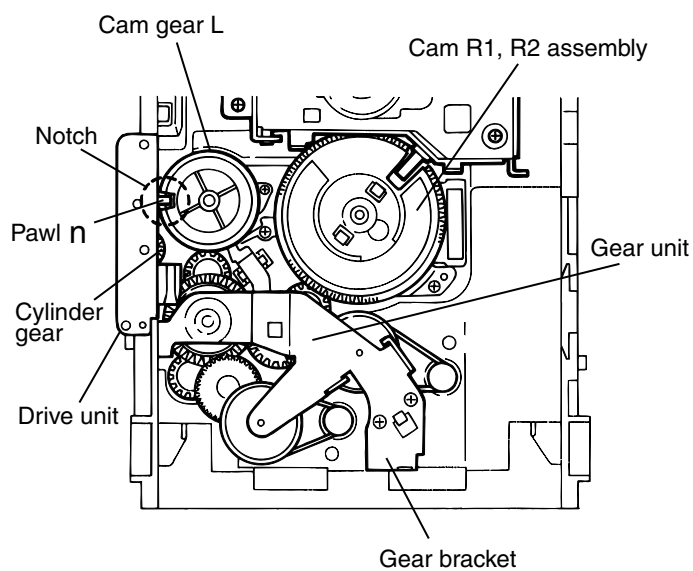


Fig.24

< Traverse mechanism section >

■ Removing the pickup unit

(See Fig.1 to 3)

1. Make sure to solder the flexible harness. (In case of replacement with a new product, unsolder the flexible harness after performing the following procedure.)
2. Disconnect the flexible harness from connector CN12 on the connection board.
3. The rack cover is attached to the feed drive shaft. Remove the two screws A attaching the connection board and stand the connection board. Remove the rack cover.
4. Remove the screw B attaching the pickup shaft holder. Remove the pickup shaft holder by releasing

ATTENTION: Be careful not to lose the inside spring.

5. Pull out the shaft in the direction of the arrow and slightly lift it with the pickup unit. Then, remove the pickup unit while pulling the rack a in the direction of the arrow.

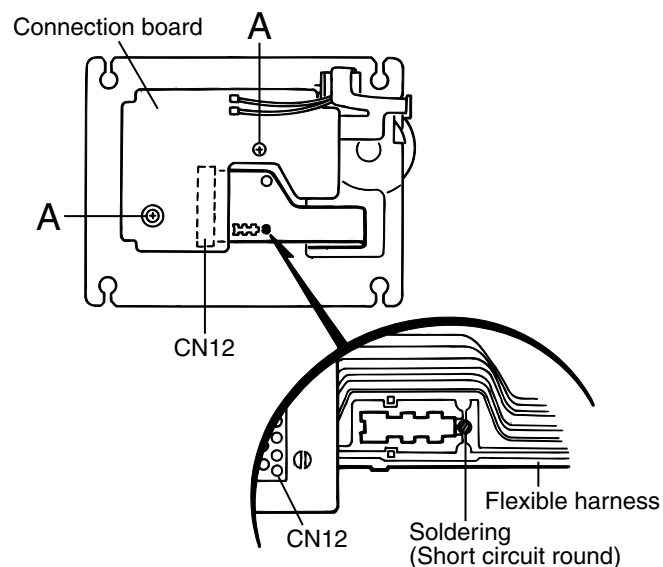


Fig.1

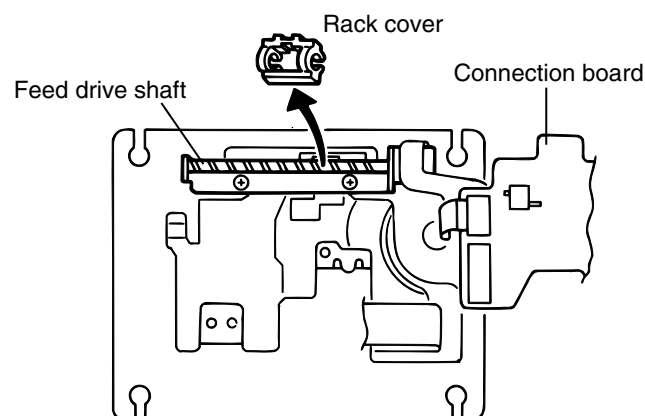


Fig.2

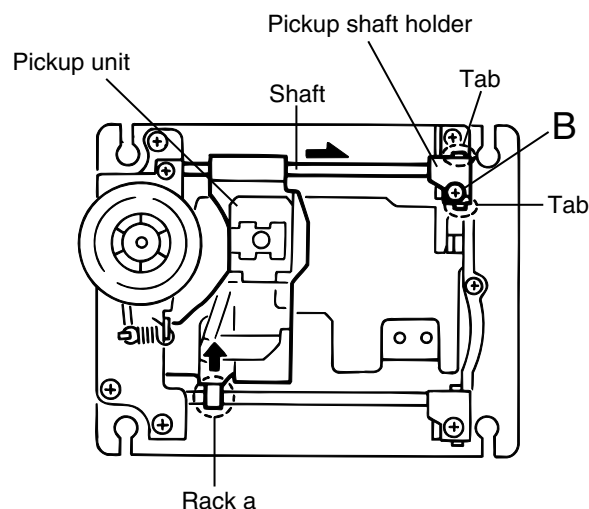


Fig.3

■ Removing the Spindle Motor Assembly (See Fig.4 to 8)

1. Unsolder the two parts b on the connection board.
2. Remove the screw C attaching the sensor holder and detach the sensor holder from the turn table bracket. Slacken and remove the flexible harness of the part c as shown in Fig.6. Pull up the hook d and remove the flexible harness from the sensor holder.

(When reattaching the sensor holder)

- Let the flexible harness through the part c of the sensor holder and reattach it to the hook d correctly (See Fig.6).
- Reattach the pin e of the sensor holder to the notch of the radial lever and reattach the sensor holder to the turn table bracket.

3. Remove the three screws D attaching the spindle motor assembly.
4. Release the tab by moving the spindle motor assembly to the tab, and remove the spindle motor assembly.

ATTENTION: Do not lose the spring of the shaft f by the tab.

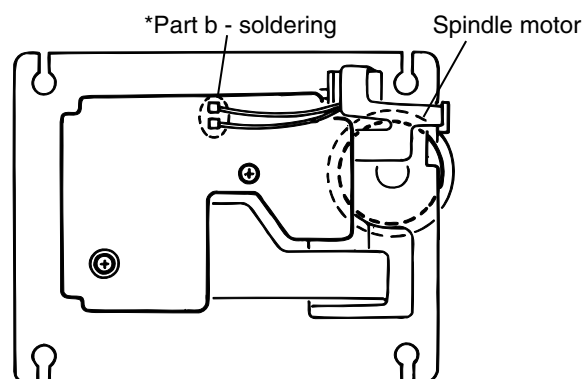


Fig.4

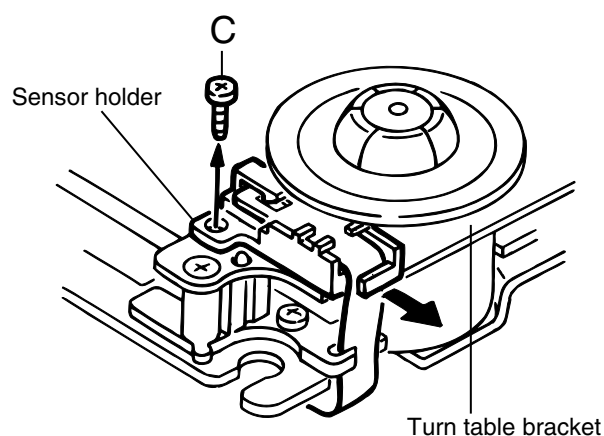


Fig.5

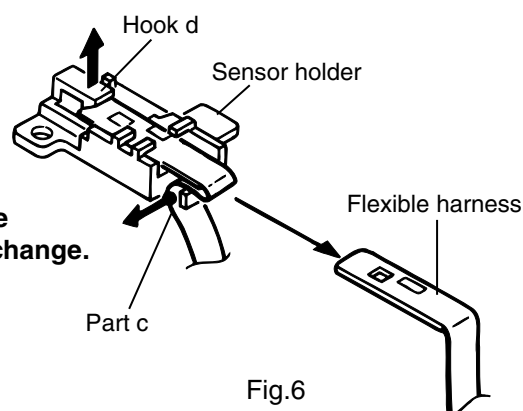


Fig.6

**It is not necessary to remove
at the spindle motor unit exchange.**

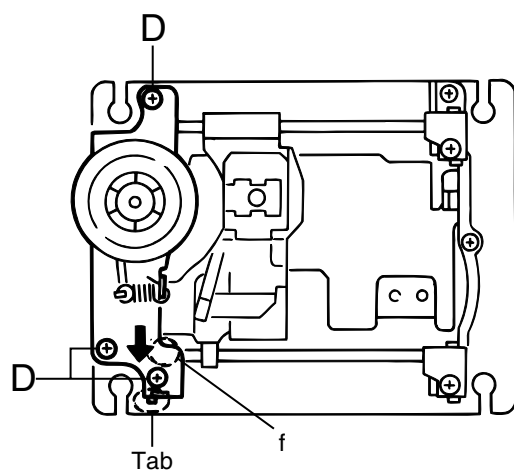


Fig.8

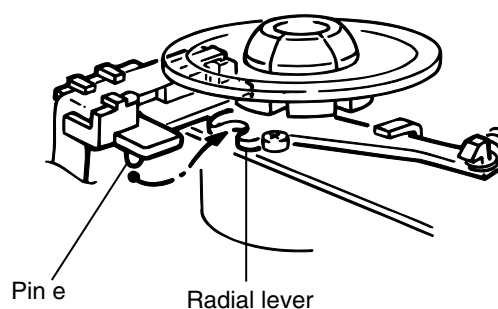


Fig.7

■ Removing the connection board

(See Fig.9)

1. Disconnect the flexible harness from connector CN12 and CN13 on the connection board on the under side of the chassis.
2. Unsolder the two parts b (the red and black wires extending from the spindle motor) on the connection board.
3. Remove the two screws A attaching the connection board and detach the relay board.

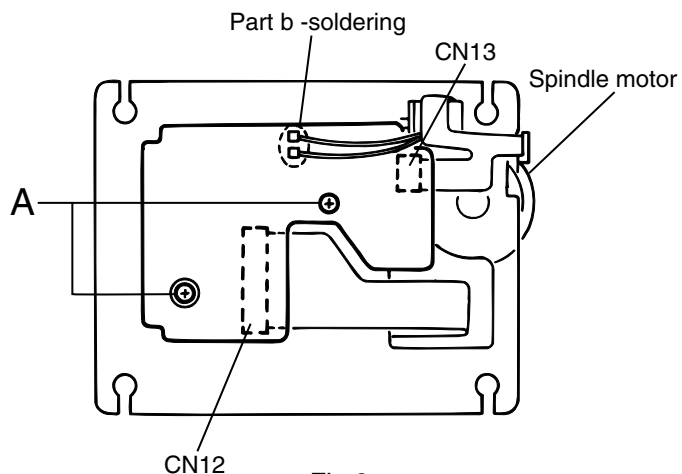


Fig.9

■ Removing the feed motor assembly

(See Fig.10)

- Prior to performing the following procedure, remove the connection board.
1. Unsolder the flexible harness g of the feed motor.
 2. Remove the two screws E attaching the feed motor assembly and detach the feed motor assembly.

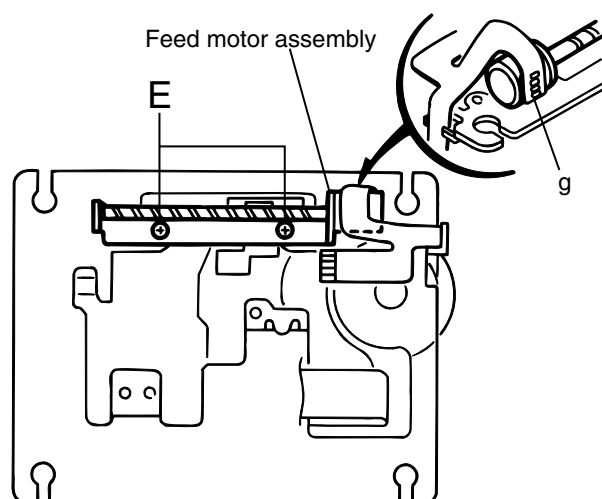


Fig.10

Check points for each error

(1) Spindle start error

*Defective spindle motor

Does the resistance between pins nos. 5 and 7 of CN102 register 6 Ω to 10 Ω ?
(The power supply is turned off and measured.)

*Hall element: Is square wave output with the voltage of CN102 pin no. 2 during rotation?

In either case, replace the mechanical unit.

*Defective BTL driver (IC271)

Is there a voltage output between pins nos. 5 and 7 of CN101?

Is IC271 "25" at "H" level (START)?

Servo IC --- Is control signal sent to the motor driver ?

IC201 "120,121" : Duty is 50% during stop, but varies during rotation (greatly varies at start).

--- If not sent, pattern or servo IC (IC201) is defective.

Is FG input to servo IC ?

Observe FG wave from IC271 "41". --- If not output, pattern, IC271 or IC201 is defective.

(2) Disc Detection, Distinction error (no disc, no REFNV)

* Laser is defective.

* Front End Processor is defective (IC101).

* APC circuit is defective. --- Q101.

* Pattern is defective. --- Lines for CN101 "2,4,6" and "14".

Lines for between IC201 "2" and IC101 "2"(LDONA),
between IC201 "3" and IC101 "1" (LDONB).

* Servo IC is defective (IC201).

* Does signal flow to IC 101 pin no. 79 and output to (RFINP)?

* IC101 --- For signal from IC101 to IC301, is signal output from IC101 "88" (TS1),
IC101 "69" (RFENV) and IC101 "90" (FS)?

(3) Traverse movement NG

* Traverse motor is defective.

Is there a voltage output between "1" to "6" and "3" to "4" of CN102?

* BTL driver is defective.

Is there a voltage output at Pins nos. "12,13,14" and "15" of IC271?

The voltage of the MUTE2 terminal pin no. "25" of IC271 becomes (H).

Is the driving voltage output on pin nos. "104" and "105" of the servo IC?

--- The servo IC defective or the patterns are incorrect.

(4) Focus ON NG

- * Is FE output ? --- Pattern, IC101
- * Is FODRV signal sent ? (R288) --- Pattern, IC201
- * Is driving voltage sent ?
CN102 "9", "11" --- If NG, pattern, driver, mechanical unit (with the power turned off, measure the resistance between CN102 "9" and "11").
- * Does CN101 "14"(SRF1) become "H" and is the focus drawing in done?
--- Mechanical unit (laser power too low), IC101(defective gain)
--- Moreover, It is thought that abnormality is found in the disk.
- * Mechanical unit is defective.

(5) Tracking ON NG

- * When the tracking loop cannot be drawn in, IC201 "58" (/TRON) does not become "L".
- * Mechanical unit is defective.
Because the undermentioned adjustment value is abnormal, it is not possible to draw in normally.
- * Periphery of driver (IC271)
Constant or IC it self is defective.
(When passing without becoming abnormal while adjusting the following.)
- * Servo IC (IC201)
When improperly adjusted due to defective IC.

[Focus position rough adjustment]
[Phase difference cancellation rough adjustment]
[Tracking balance adjustment]

(6) Spindle CLV NG

- * When the spindle cannot be shifted to CLV Servo, does not become "H" between IC301 "88" and IC201 "18".
- * IC101 Is signal output from CN104 "1" (RFOP)?
- * IC101 Is signal output from CN104 "12" (FLTOUT)?
- * IC101 Is signal output from CN104 "7" "8" "9" "10" (binary-coded clock and data)?
- * IC201 Is "58" (/TRON) at "L" level ?
- * Besides the causes mentioned below, it is difficult to point out a specific one because there are various factors that should be considered.
Mechanism is defective.(jitter)
IC101, IC201.

(7) Address read NG

- * Besides the causes mentioned below, it is difficult to point out a specific one because there are various factors that should be considered.
Mechanism is defective. (jitter)
IC201, IC301, IC401.
The disc is dirty or the wound has adhered.

(8) Between layers jump NG (double-layer disc only)

- * Defective mechanism
- * The ICs surrounding the driver IC (IC271) are defective.
- * Servo IC (IC201) is defective.

(9) Neither picture nor sound is output

* Cannot search

a) Can the feed system be driven?

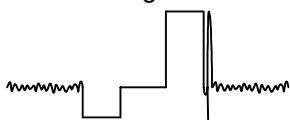
TRSDRVA and TRSDRVB line signal

Check the voltage of IC201 between pin no. 104 and R273 and pin no. 105 and R277.

After checking the voltage of the driver (IC271) pin nos. 9,10,12 and 13, check the signals of FMA+, FMA-, FMB+ and FMB-.

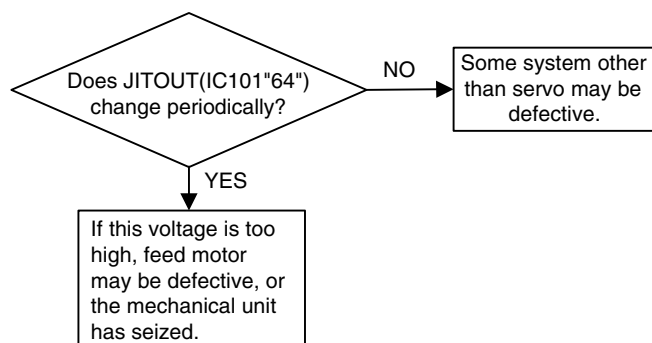
b) Is kick available?

Check the TRDRV signal waveform from R285.



Check the waveform of CN102 "8" and "10" --- After the driver (IC271)

(10) Picture is distorted or abnormal sound occurs at intervals of several seconds.



(11) Others (unusual events experienced to date)

* Problem occurs with double-layer discs although no problem occurs with single-layer DVD.

(Error occurs, or search becomes unstable and takes longer.)

Crosstalk might occur from tracking to focus system.

--- When FE was observed during search (skip, etc.), it was found that a wave resembling TE with an amplitude of 200mVp-p was riding on FE.

--- Mechanical unit was replaced.

* Error frequently occurred in the outer part of discs although no error occurred in the inner part.

--- Mechanical unit was replaced because tilt seemed to be defective.

(12) CD During normal playback operation

a) Is TOC reading normal? NO → Please refer to "Servo Volume" flow.

Displays total time for CD-DA.

Shifts to double-speed mode for V-CD.

↓ YES

b) Playback possible?

NO →

*The OSD screen remains on the "No reading" display.

According to [*Cannot search] for DVD(9), check the feed and tracking systems.

*No sound is output although the time is displayed.(CA-DA) DAC, etc, other than servo.

*The passage of time is not stable, or picture is abnormal.(V-CD) The wound of the disc and dirt are confirmed.

Precautions for service

Handling of Traverse Unit and Laser Pickup

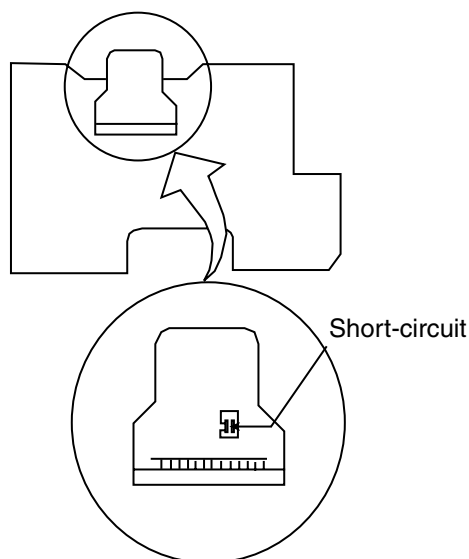
1. Do not touch any peripheral element of the pickup or the actuator.
2. The traverse unit and the pickup are precision devices and therefore must not be subjected to strong shock.
3. Do not use a tester to examine the laser diode. (The diode can easily be destroyed by the internal power supply of the tester.)
4. To replace the traverse unit, pull out the metal short pin for protection from charging.
5. When replacing the pickup, after mounting a new pickup, remove the solder on the short land which is provided at the center of the flexible wire to open the circuit.
6. Half-fixed resistors for laser power adjustment are adjusted in pairs at shipment to match the characteristics of the optical block.

Do not change the setting of these half-fixed resistors for laser power adjustment.

Destruction of Traverse Unit and Laser Pickup by Static Electricity

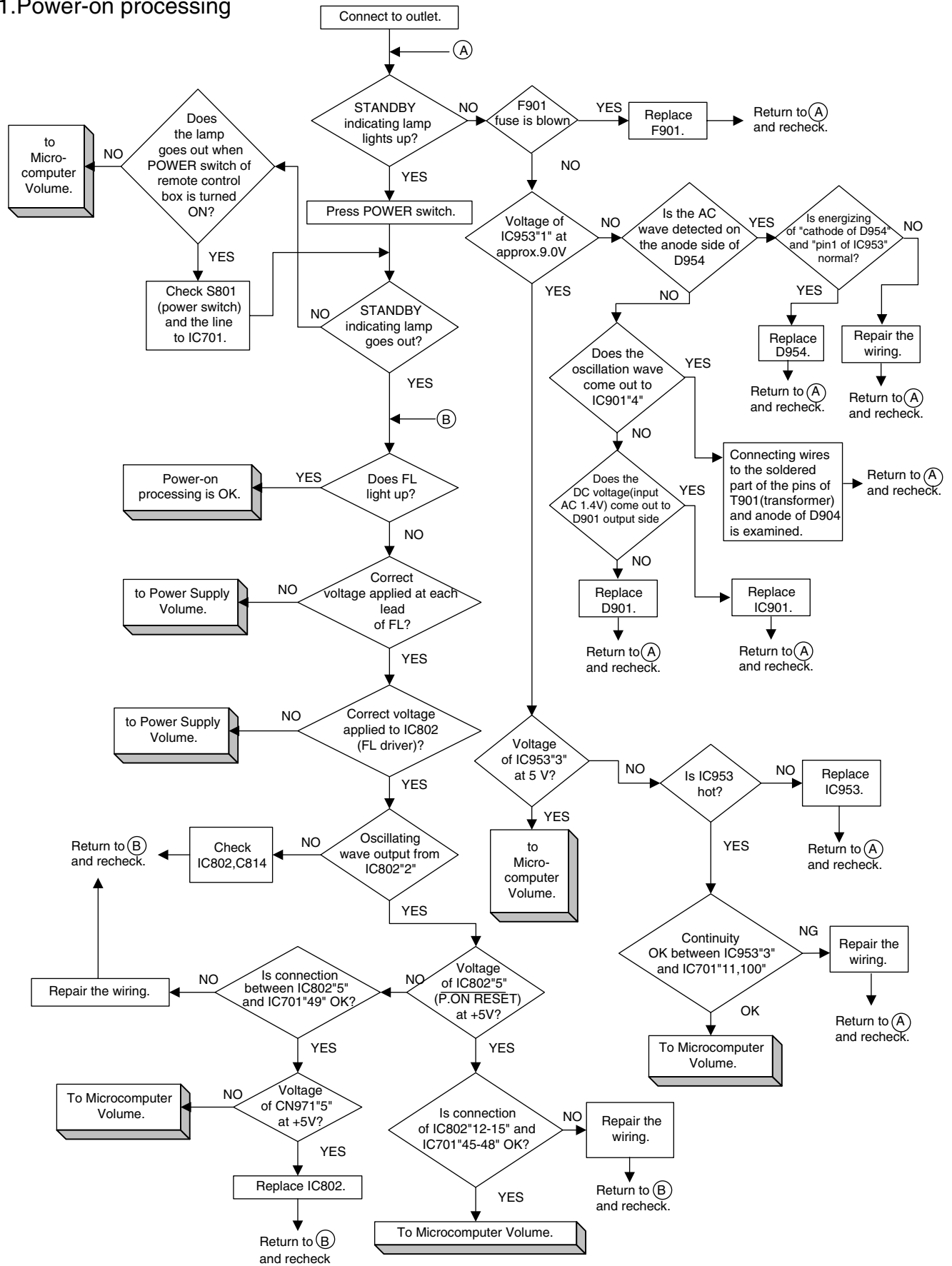
Laser diodes are easily destroyed by static electricity charged on clothing or the human body. Before repairing peripheral elements of the traverse unit or pickup, be sure to take the following electrostatic protection:

1. Wear an antistatic wrist wrap.
2. With a conductive sheet or a steel plate on the workbench on which the traverse unit or the pick up is to be repaired, ground the sheet or the plate.
3. When removing the pickup wire, short-circuit the land provided at the center of the pickup flexible wire. But before carrying out the above, short-circuit the land of the mechanism relay board first.
4. Short-circuit the laser diode by soldering the land which is provided at the center of the flexible wire for the pickup. After completing the repair, remove the solder to open the circuit.



Troubleshooting

1. Power-on processing



2. Power Supply Volume

With all the wiring removed, check unit power board.

- (1) Remove all flat wires and wire assemblies which are connected to CN971,CN972,CN951,CN952,CN981.
- (2) Short -circuit CN951 "1" (POWER ON:B9006) and "2" (B5V:B9019). (Set each regulator to ON.)
- (3) The load resistance is connected between CN961 "4" (D5V:B9008) and "3,4"(D.GND:B9001).
- (4) Connect to the outlet and check the voltage at each part.
(For the voltage specification, see the standard schematic diagrams.)

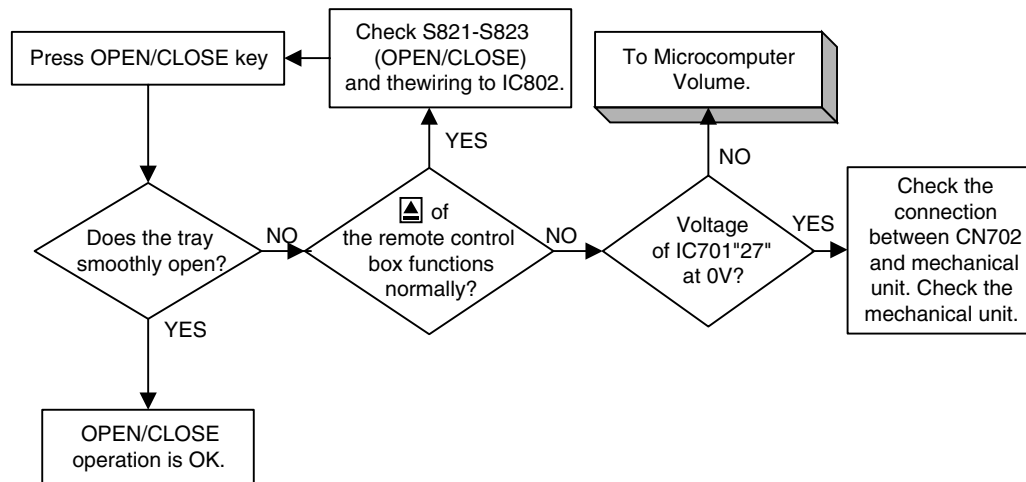
* If the load resistance is not connected, the voltage is not output to "B9008".

Then restore the connection of CN971,CN972,CN951,CN952,CN981 and check voltage.

- (1) Remove the wire short -circuiting CN951 "1" and "2".
- (2) Remove the load resistance.
- (3) Restore the connection of CN971,CN972,CN951,CN952,CN981.
- (4) Connect to the outlet.
- (5) Turn the POWER switch on and check the voltage at each part.

If voltage abnormally drops when CN971,CN972,CN951,CN952,CN981 are connected (load is connected) though the voltage was at the normal level when CN971,CN972,CN951,CN952,CN981 were disconnected (load is connected), or if the protective element (fuse, etc.) is opened, the load which is supplied power may be defective or the wiring may be short-circuited.

3. Open/Close Operation



4. Microcomputer Volume

Processing of Each Microcomputer

- * IC701 System microcomputer (sub-microcomputer)
 After powering on, this microcomputer is continuously activated to control keys and remote control signals.
 According to key operations or remote control signals, it controls (turns on/off) the power for LSIs including IC401 (main microcomputer) and the audio/video output circuit.
 It also controls the resetting of the main microcomputer, FL driver IC (IC802) for FL display.

- IC401 Main microcomputer
- * This microcomputer controls a group of LSIs of servo and signal processing sections according to commands from the system microcomputer.
 After receiving time information from the signal processing section, it transmits the information together with the status to the system microcomputer.
 It controls the resetting of the LSIs of the servo and signal processing sections.
 It has IC402 (16Mbit ROM) as an external ROM.

Normal Starting Conditions

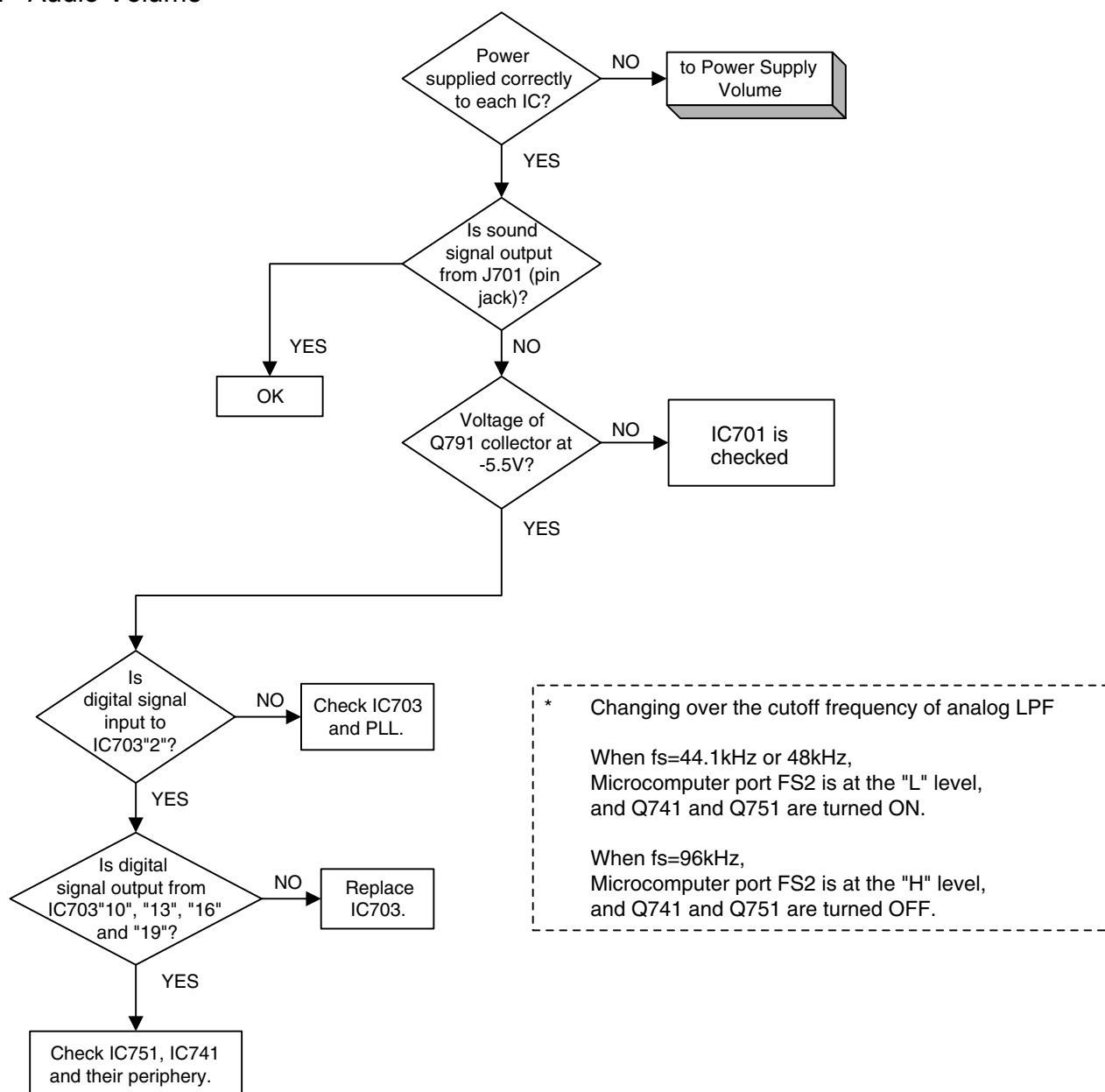
- * IC701 System microcomputer
 - (1) +5V must be applied to "11" and "100".
 - (2) Oscillators of "12" and "13" must be oscillating correctly.
 - (3) Input to "33" (RESET) must be at +5V (reset cancel).

If above (1) to (3) are not satisfied when the STANDBY indicating lamp does not light at power-on, IC701 may be defective.

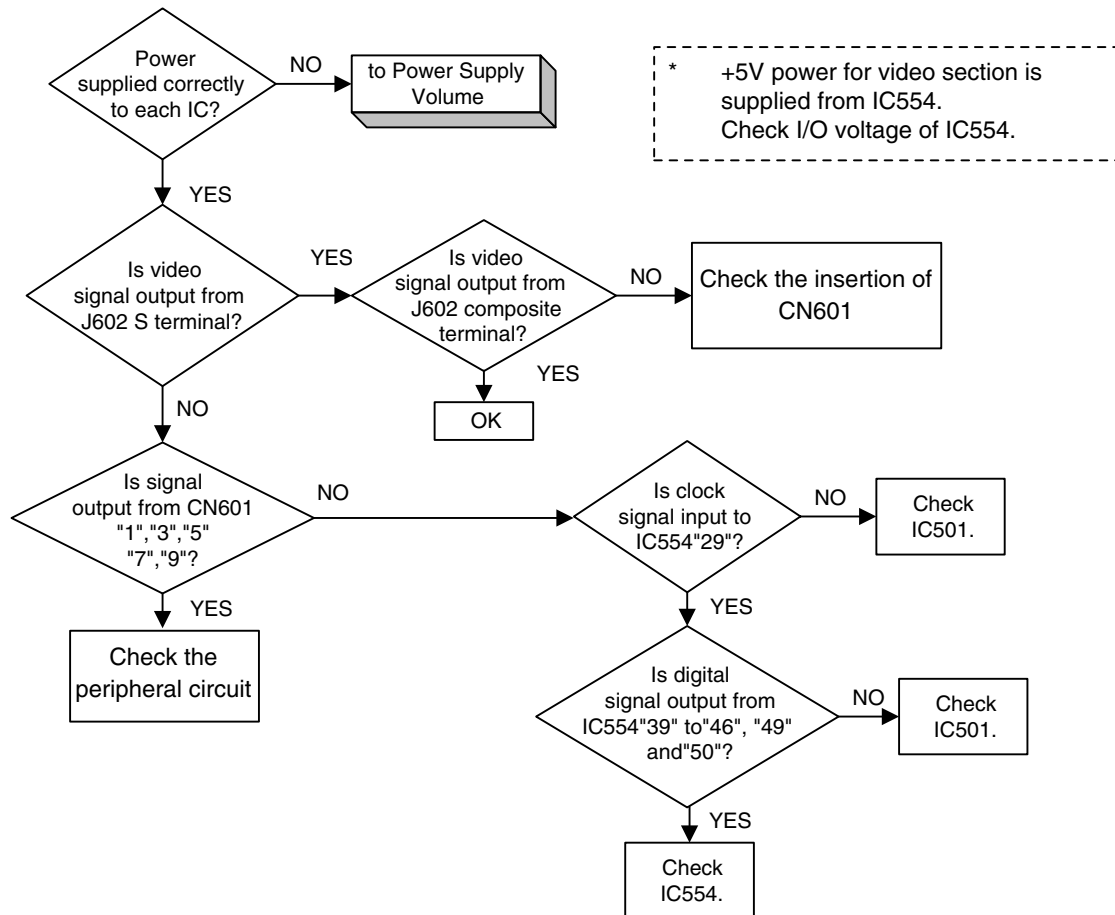
- * IC401 Main microcomputer
 - (1) +5V must be applied to "17", "22", "34", "54", "66", "83"
 - (2) Clock signal (13.5MHz) must be input to "23".
 - (3) Input to "82" (RST) must be at +5V (reset cancel).
 - (4) Communication line with IC701 ("57", "58", "67"~"69") and that with IC402 (external ROM) ("13"~"16", "26"~"33", "35"~"42", "44", "93"~"100") must work normally.

If above (1) to (3) are not satisfied when the STANDBY indicating lamp goes out but FL does not light when the POWER switch is turned on, IC401, IC701 or IC402 may be defective.

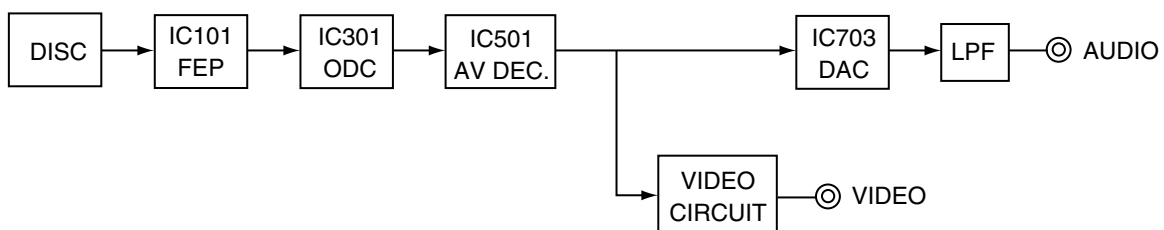
5. Audio Volume



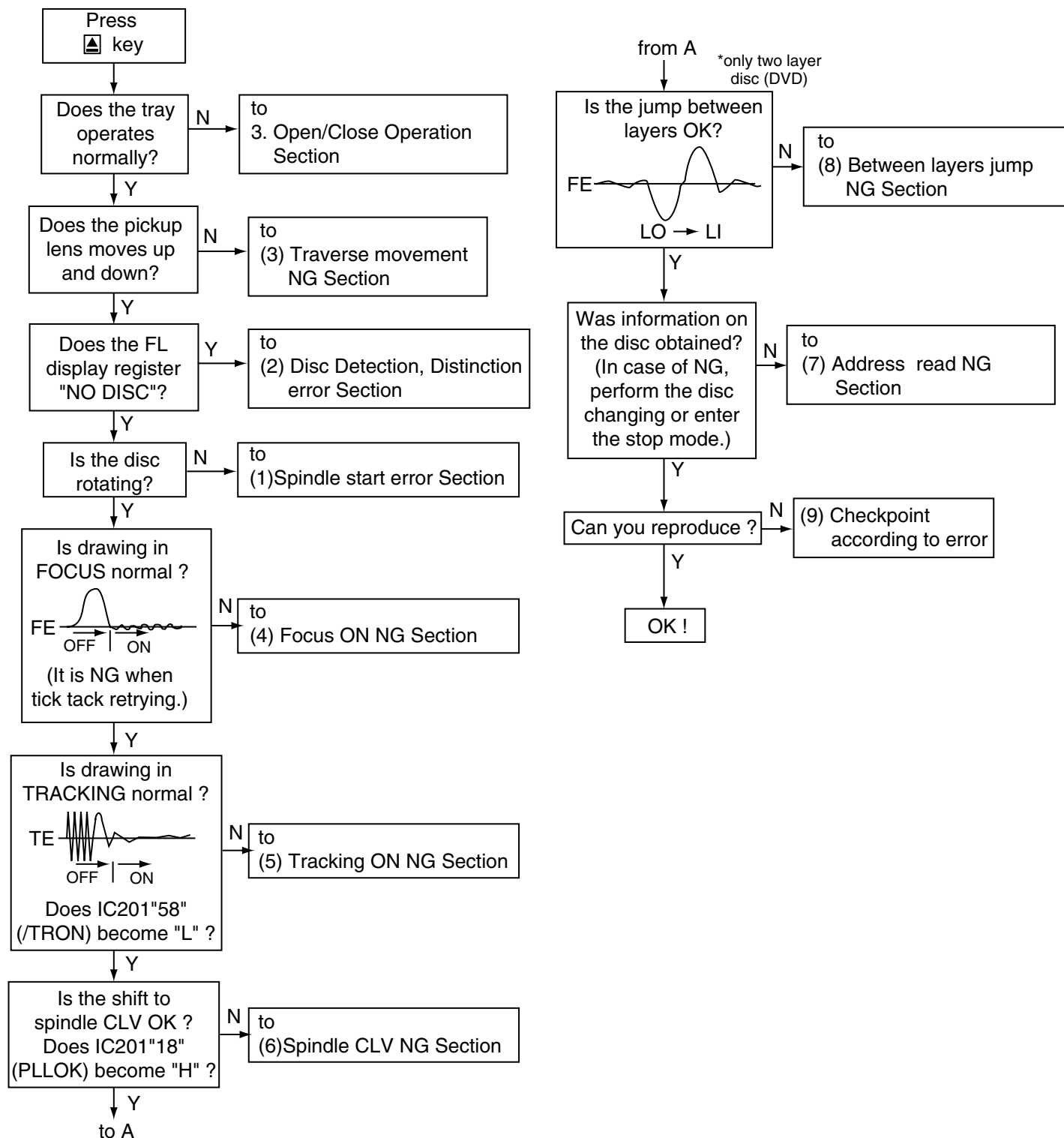
6. Video Volume



Signal flow of DISC media



7.Servo volume

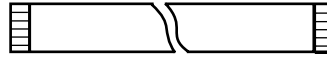


Adjustment method

Jig for adjustment:

Stud bolt (4 pc.)	Parts No. JIGXVM555-KIT	1 set
Hexagonal wrench for adjustment		1 pc.
Extension cable		
Terminal 19 (CN10)	Parts No. QUQ110-1912AJ	1 pc.
Terminal 11 (CN11)	Parts No. QUQ110-1122AJ	1 pc.

Parts No. QUQ110-1122AJ



Parts No. QUQ110-1912AJ



Parts No. JIGXVM555-KIT

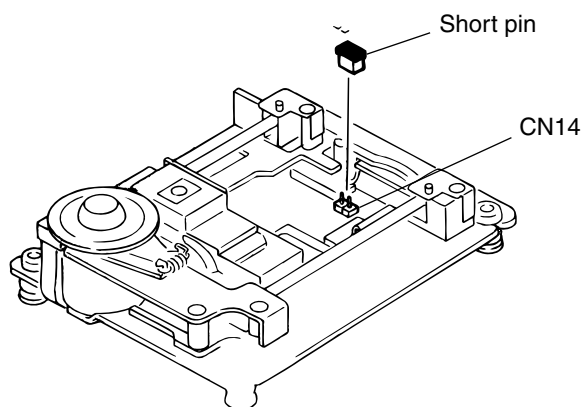


Test Disc: VT501 or VT502

When replacing a pickup etc., execute the following adjustments:

Pickup replacement

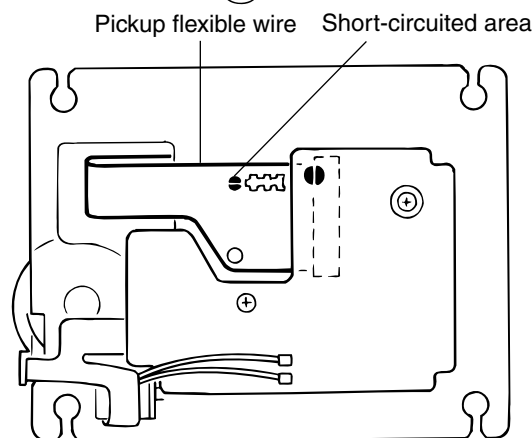
1. When removing the traverse mechanism from the changer mechanism unit, move the pickup to the innermost diameter of the disc and then short-circuit the CN14 terminal on the board that is located at the outermost diameter of the disc. (Do this with a pin or by soldering it)
2. Take out the traverse mechanism.
3. First short-circuit the pickup circuit before removing the pickup. Then carry out the replacement.



Adjustment

Jig setup

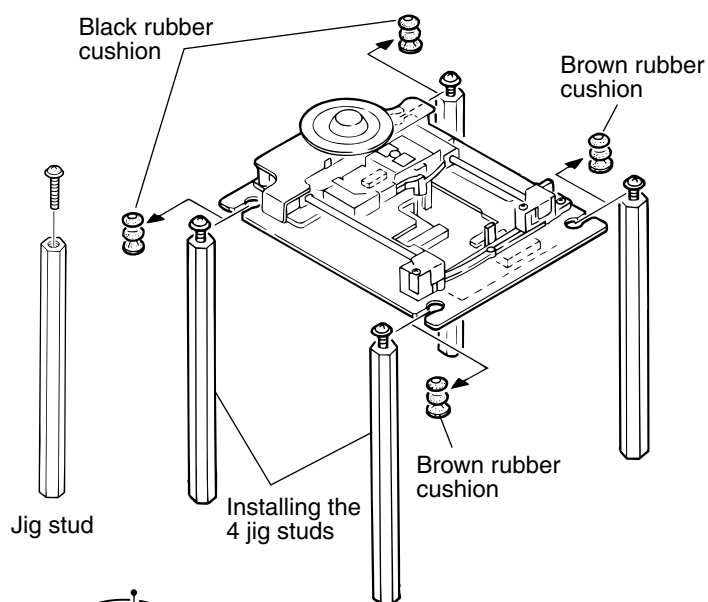
1. Remove the rubber cushion from each of the four corners of the traverse mechanism. (When installing be sure not to make a mistake with the cushion colors).
2. Install the jig stud.
3. Make a jig clamp. (Remove the clamp from the set and assemble it as shown in the diagram below).



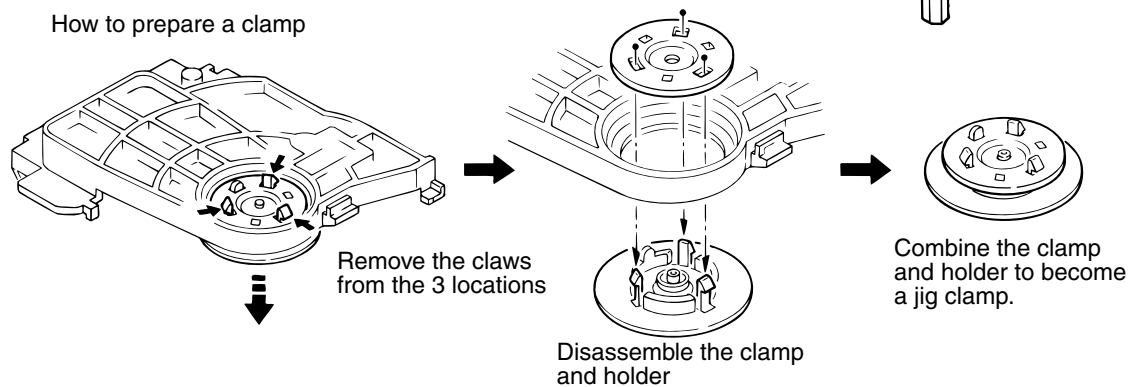
Note:

How to handle the pickup

To protect the pickup from electro-static damage, make sure to hold it by the die-cast chassis (optical base). And make sure that pickup lens do not touch the top cover.

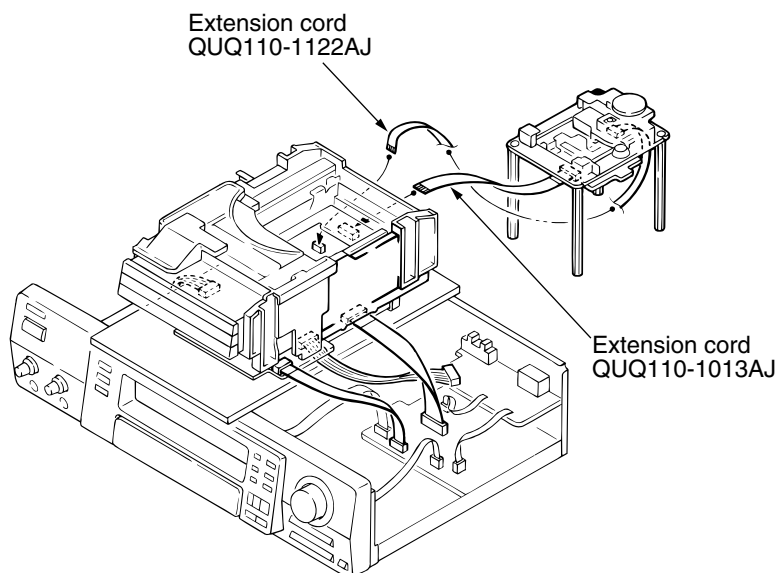


How to prepare a clamp



Integrated wiring for adjustment

1. Place a board on top of the unit and put the changer on it. Then carry out the wiring of the main unit.
2. Connect the two extension cables (two types) to the traverse mechanism for adjustment and then connect them to the changer.
3. Remove the solder of the short-circuited flexible wire. Then remove the short-circuited pin from the traverse mechanism
4. Connection is completed.

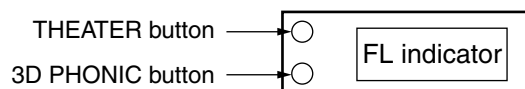


Adjustment preparation

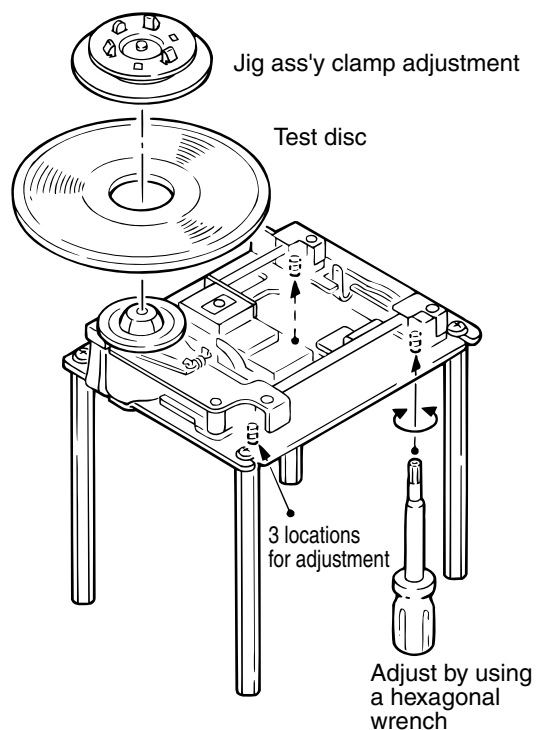
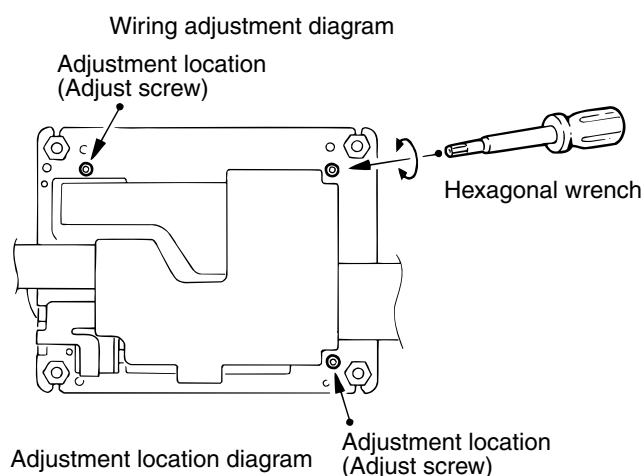
1. The 3 adjustment locations
2. 1.4 mm hexagonal wrench
3. Set the VT-501 or the VT502 test disc.

FL jitter display

1. Connect the power cable while pressing the **▲** (OPEN/CLOSE) button of DISC1 and **▷** (PLAY) button simultaneously.
 - The DISC no. "E5E J 1" is displayed on the FL indicator.
2. Press the 3D-PHONIC button on the front panel to commence initialization.



3. Then by pressing the THEATER POSITION button.
 - The DISC will start to rotate and automatic adjustment is executed.
4. When the key **▷** (PLAY) is pressed the jitter value is displayed.
5. Adjust the jitter value to minimum by using the adjust screw.



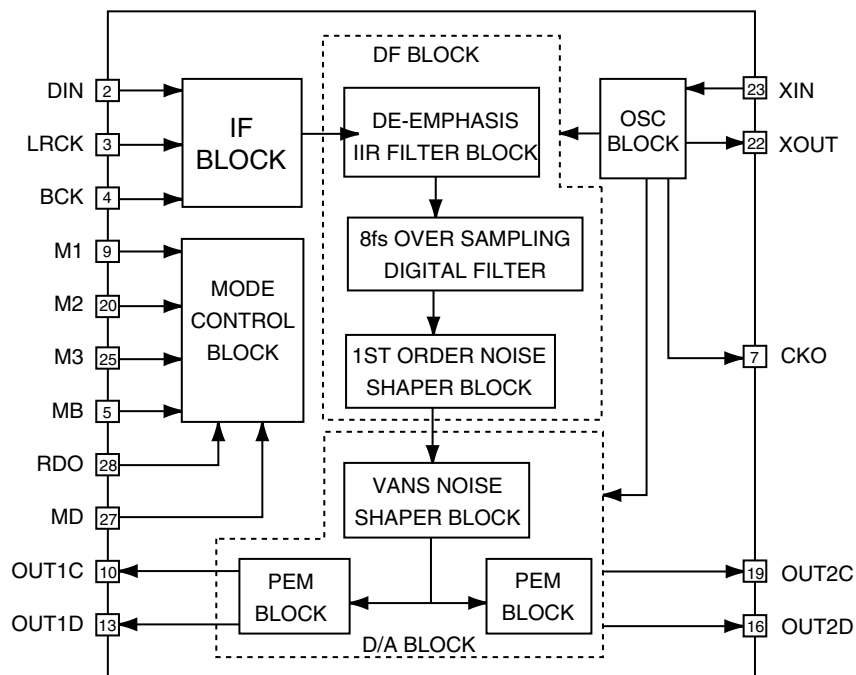
Description of major ICs

■ MN35503-X (IC703) : D/A CONVERTER

1.Terminal layout

MA	1	28	RDO
DIN	2	27	MD
LRCK	3	26	MC
BCK	4	25	M3
MB	5	24	DVDD1
DVDD2	6	23	XIN
CKO	7	22	XOUT
DVSS2	8	21	DVSS1
M1	9	20	M2
OUT1C	10	19	OUT2C
NC	11	18	NC
AVDD1	12	17	AVDD2
OUT1D	13	16	OUT2D
AVSS1	14	15	AVSS2

2.Block diagrams

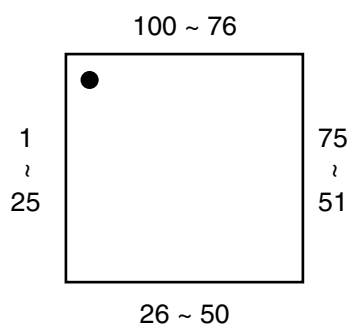


3.Pin function

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	MA	-	Connected to ground	15	AVSS2	-	Analog ground 2
2	DIN	I	Data input	16	OUT2D	O	2D PEM output
3	LRCK	I	L/R clock input	17	AVDD2	-	Analog power supply 2
4	BCK	I	Bit clock input	18	NC	-	Non connection
5	MB	I	De-emphasis ON signal	19	OUT2C	O	2C PEM output
6	DVDD2	-	Digital power supply2	20	M2	-	Connected to ground
7	CKO	I	Clock output	21	DVSS1	-	Digital ground 1
8	DVSS2	-	Digital ground 2	22	XOUT	O	Crystal oscillator output
9	M1	-	Connected to ground	23	XIN	I	Crystal oscillator input
10	OUT1C	O	1C PEM output	24	DVDD1	-	Digital power supply 1
11	NC	-	Non connect	25	M3	-	Connected to ground
12	AVDD1	-	Analog power supply 1	26	MC	-	Connected to ground
13	OUT1D	O	1D PEM output	27	MD	I	Reset signal/Digital Att.control signal input
14	AVSS1	-	Analog ground 1	28	RDO	-	Not used

■ MN101C12G (IC701) : System micom

1. Terminal layout



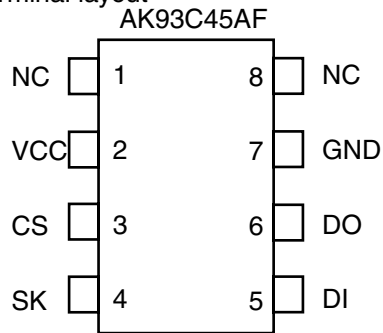
2. Pin function

Pin No.	Symbol	I/O	Function
1	GND	-	GND
2	CS0	I	A set bit0 (It is effective in the U.E version)
3	CS1	I	A set bit1 (It is effective in the U.E version)
4	CS2	I	A set bit2 (It is effective in the U.E version)
5	NTSEL	I	NTSC/PAL switch SW input
6	POWER SW	I	Power key input
7	SHUT1	I	JOG shuttle input (AD)
8	KEY1-5	I	10 Key input (1~5)
9	KEY6-10	I	10 Key input (6~10, +10)
10	VREF	-	+B (Apply 5V)
11	VDD	-	+B (Apply 5V)
12	OSC2	O	10MHz OSC
13	OSC1	I	10MHz OSC
14	VSS	-	GND
15	-	I	Unused, Connects with GND
16	-	O	Unused
17	MMOD	I	Connects with GND
18	OSDCS3	O	V.ENCODER chip selection
19	RSTE	O	V.ENCODER reset
20	OSDDO	O	V.ENCODER communication DATA
21	S2UDT	O	Communication between unit microcomputers DATA OUT
22	U2SDT	I	Communication between unit microcomputers DATA IN
23	SCLK	O	Communication between unit microcomputers CLK
24	BUSY	O	Communication between unit microcomputers BUSY
25	CPURST	O	Unit microcomputer reset
26	REQ	I	Communication between unit microcomputers REQ
27	REMO	I	Remote control interruption
28	CS3	I	Set password change judgment bit(H:Change, L:Usual)
29	TEST	I	Un used
30	TEST	I	H:Checkers mode, L:Normal mode
31	TEST	I	H:Running mode, L:Normal mode
32	NC	I	Un used
33	RESET	I	Reset input
34	NC	O	Un used
35	NC	O	Un used
36	VDD	-	Un used
37	OSDCK	O	V.ENCODER communication CK
38	NT	O	NTSC/PAL Switching

Pin No.	Symbol	I/O	Function
39	FS2	O	48kHz, 96kHz switch
40	CHREQ	I	Changer communication REQUEST
41	CHST	O	Changer communication STROBE
42	CHDATA	O	Changer communication DATAI/O
43	NC	-	Un used
44	CHCK	O	Changer communication CLOCK
45	FLDATAO	O	FL driver communication DATAO
46	FLDATAI	I	FL driver communication DATAI
47	FLCK	O	FL driver communication CLOCK
48	FLCS	O	FL driver communication CS
49	FLRST	O	FL reset output
50	EEDO	O	EEPROM communication DATAO
51	EEDI	I	EEPROM communication DATAI
52	EECK	O	EEPROM communication CLOCK
53	EECS	O	EEPROM communication CS
54	VS1	O	S1 control
55	VS3	O	S3 control(STBY:H, P.ON:L)
56	DMUT1	-	Un used
57	DMUT2	-	Un used
58	PDB2	-	Un used
59	PDB1	-	Un used
60	DEMP2	-	Un used
61	DEMP1	-	Un used
62	DENA	-	Un used
63	KARAOKE	O	KARAOKE gain control(At KARAOKE : H)
64	POWERON	O	Power ON output
65	VS2	O	S2 control
66~76	NC	O	Un used
77	AVCI	I	AV COMPULINK input
78	AVCO	O	AV COMPULINK output
79	NC	O	Un used
80	STANBYIND	O	Standby LED output
81~85	NC	O	Un used
86	CS4	O	Un used
87	MA	O	DAC control MA
88	MB	O	DAC control MB
89	M1M3	O	DAC control M1M3
90	MD	O	DAC control MD
91	MC	O	DAC control MC
92	GAIN2	-	Un used
93	GAIN1	-	Un used
94	HPMUT	O	Un used
95	DAVSS	-	Un used
96	LMUTE	O	Un used
97	CMUTE	O	Un used
98	SMUTE	O	Un used
99	MUTE	O	Front mute output
100	DAVDD	-	Apply 5V

■ AK93C45AF-W (IC791) : CMOS EEPROM

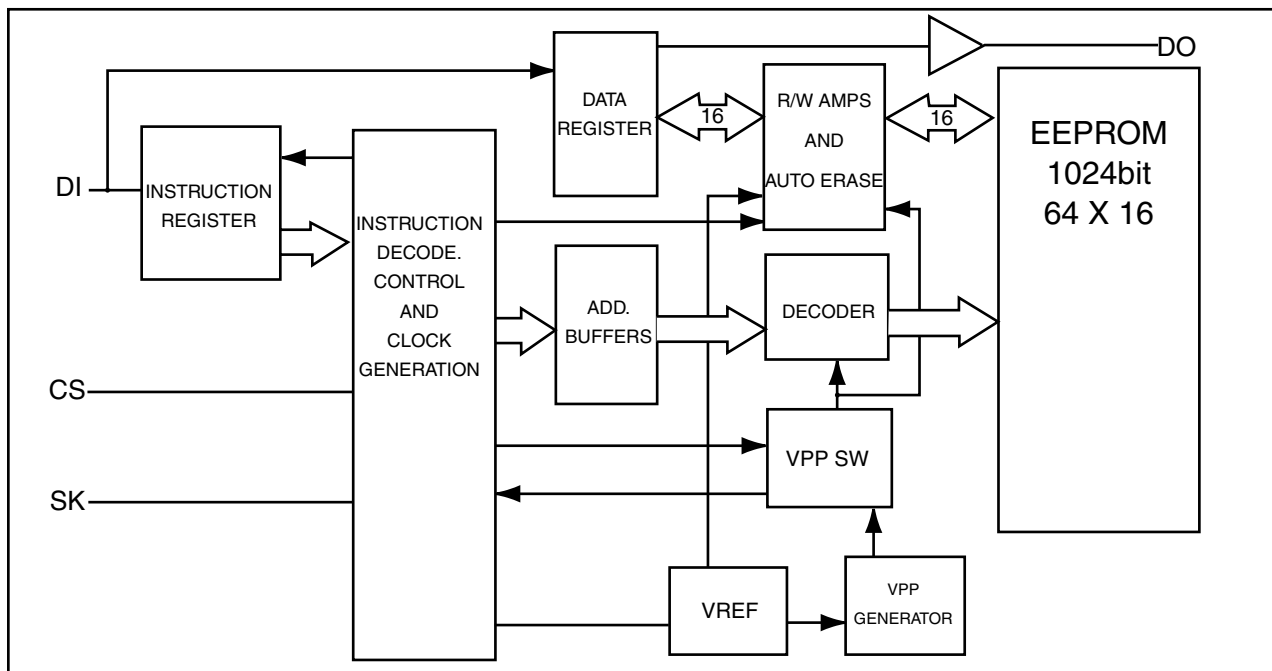
1. Terminal layout



2. Pin functions

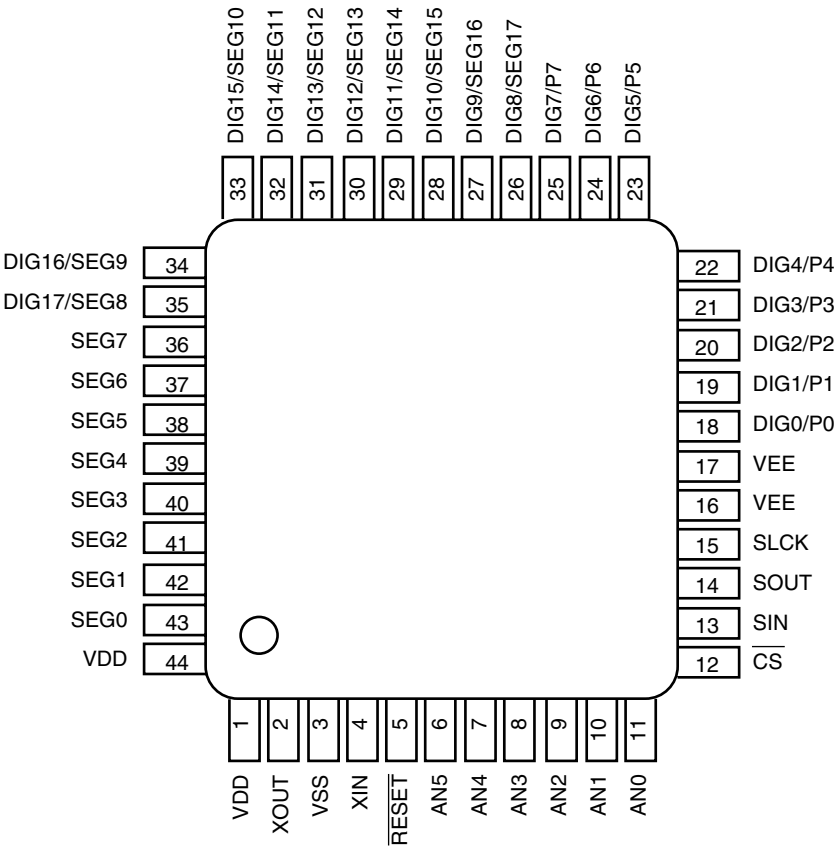
Symbol	Function
CS	Chip Select
SK	Serial Clock Input
DI	Serial Data Input
DO	Serial Data Output
Vcc	Power Supply
GND	Ground
NC	Non connection

3. Block diagram



■ M35500BGP (IC802) : FL Driver

1.Terminal layout



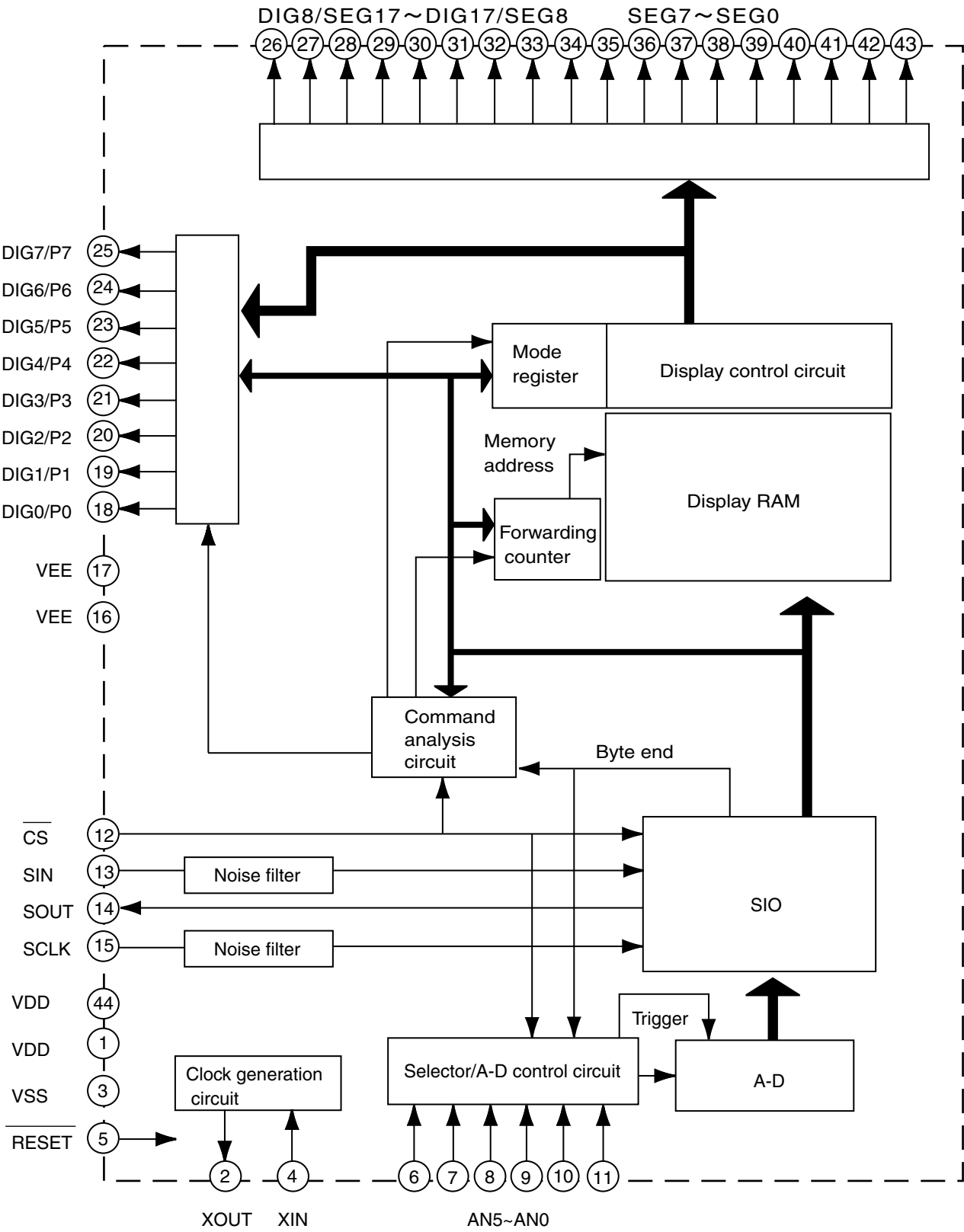
2.Pin function

M35500BGP

Pin No.	Symbol	I/O	Function
1	VDD	-	+B
2	XOUT	O	Both terminals are short-circuited on the outside, and capacity is connected.
3	VSS	-	0v is supplied to vss.
4	XIN	I	Both terminals are short-circuited on the outside, and capacity is connected.
5	RESET	I	Reset input of active "L" The pull-up resistor is built into between Vcc terminals.
6	AN5	I	Key S811~S815 input
7	AN4	-	GND
8	AN3	-	GND
9	AN2	I	Key S821~S826 input
10	AN1	I	SHUTTLE control
11	AN0	I	Key S831~S836 input
12	CS	I	When "L" is input, serial data can be forwarded.
13	SIN	I	The serial data is input. Take in twice continuously with the sample clock of 2MHz.
14	SOUT	O	The serial data is output. Becomes "Hiz" while resetting
15	SCLK	I	Clock of serial transfer is input. Take in twice continuously with the sample clock of 2MHz.
16	VEE	-	The voltage supplied to the pull down resistance is added.
17	VEE		
18	DIG0/P0	O	Digit output or general-purpose output terminal. At reset: Becomes "VEE" level through the pull down resistance.
19	DIG1/P1		
20	DIG2/P2		
21	DIG3/P3		
22	DIG4/P4		
23	DIG5/P5		
24	DIG6/P6		
25	DIG7/P7		
26	DIG8/SEG17	O	Digit output or segment output terminal. At reset : Becomes "VEE" level through the pull down resistance.
27	DIG9/SEG16		
28	DIG10/SEG15		
29	DIG11/SEG14		
30	DIG12/SEG13		
31	DIG13/SEG12		
32	DIG14/SEG11		
33	DIG15/SEG10		
34	DIG16/SEG9		
35	DIG17/SEG8		
36	SEG7	O	Segment output terminal. At reset : Becomes "VEE" level through the pull down resistance.
37	SEG6		
38	SEG5		
39	SEG4		
40	SEG3		
41	SEG2		
42	SEG1		
43	SEG0		
44	VDD	-	+B

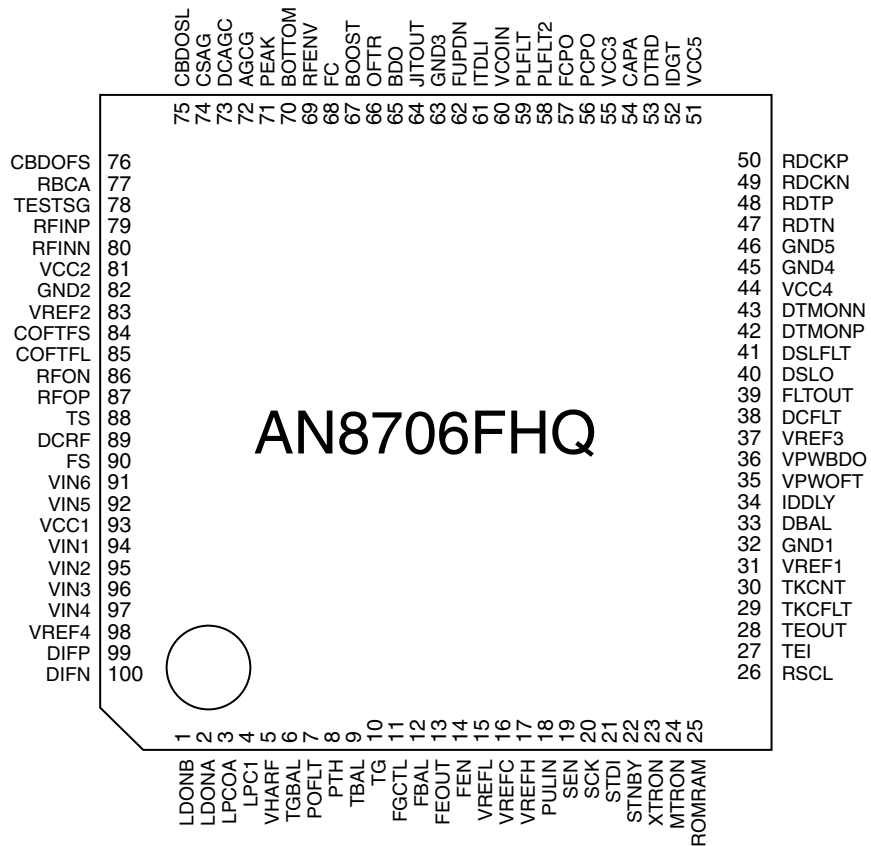
3. Block diagram

M35500BGP

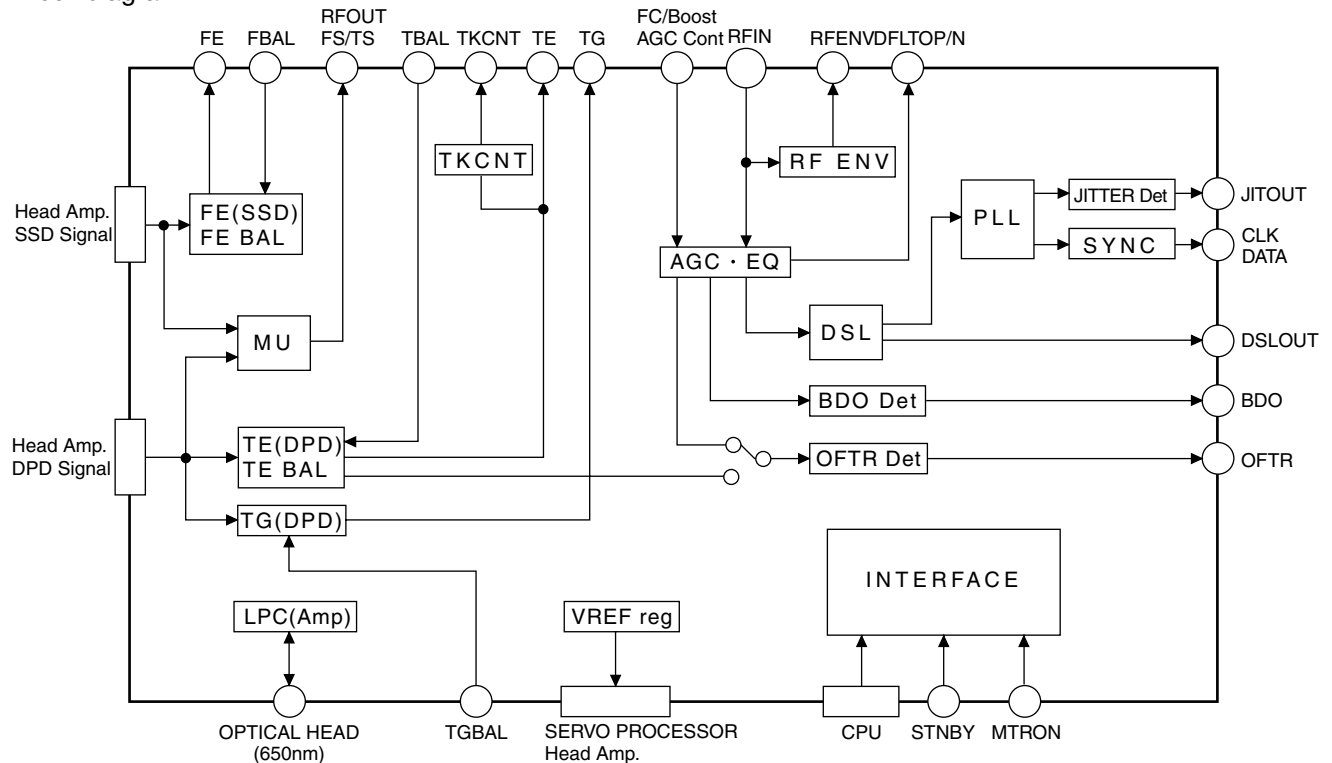


■ AN8706FHQ (IC101) : Front end processor

1.Pin layout



2.Block diagram



3.Pin function

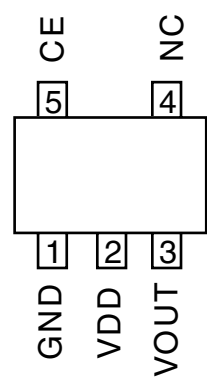
AN8706FHQ (1/2)

PinNo.	Symbol	I/O	Functions
1	LDONB	I	Laser ON (CD Head) terminal
2	LDONA	I	Laser ON (DVD Head) terminal
3	LPCOA	O	Laser drive output terminal
4	LPC1	I	Laser PIN input terminal
5	VHARF	O	VHALF voltage output terminal
6	TGBAL	I	Tangential phase balance control terminal
7	POFLT	O	Track detection Threshold value level terminal
8	PTH	I	Track detection Threshold value level terminal
9	TBAL	I	Tracking balance control terminal
10	TG	O	Tangential phase error signal output terminal
11	FGCTL	I	Focus amplifier Gain control terminal
12	FBAL	I	Focus balance control terminal
13	FEOUT	O	Focus error signal output terminal
14	FEN	I	Focus error output amplifier reversing input terminal
15	VREFL	O	VREFL voltage output terminal
16	VREFC	O	VREFC voltage output terminal
17	VREFH	O	VREFH voltage output terminal
18	PULIN	I	DSL,PLL drawing mode switch terminal
19	SEN	I	SEN(Cereal data input terminal)
20	SCK	I	SCK(Cereal data input terminal)
21	STDI	I	STDI(Cereal data input terminal)
22	STNBY	I	Standby mode control terminal
23	XTRON	I	Tracking OFF holding input terminal
24	MTRON	I	Monitor output ON/OFF switch terminal
25	ROMRAM	I	ROM・RAM switch terminal
26	RSCL	O	Standard current source terminal
27	TEI	I	Tracking error output amplifier reversing input terminal
28	TEOUT	O	Tracking error signal output terminal
29	TKCFLT	O	Track count detection filter terminal
30	TKCNT	O	Track count output terminal
31	VREF1	O	VREF1 voltage output terminal
32	GND1	O	Earth terminal 1
33	DBAL	I	Data slice offset adjustment terminal
34	IDDLY	I	Data slice delay adjustment terminal
35	VPWOFT	I	OFTR detection level setting terminal
36	VPWBDO	I	BDO detection level setting terminal
37	VREF3	O	VREF3 voltage output terminal
38	DCFLT	O	Capacity connection terminal for data slice input filter
39	FLTOUT	O	Filter amplifier output terminal
40	DSLO	O	Data slice single data output terminal
41	DSLFLT	O	Data slice time constant filter terminal
42	DTMONP	O	PLL differential motion 2 making to value edge signal monitor output (+)
43	DTMONN	O	PLL differential motion 2 making to value edge signal monitor output (-)
44	VCC4	I	Power terminal 4 (5V)
45	GND4	O	Earth terminal 4
46	GND5	O	Earth terminal 5
47	RDTN	O	PLL differential motion making to synchronization RF signal reversing output
48	RDTP	O	PLL differential motion making to synchronization RF signal rotation output
49	RDCKN	O	PLL differential motion making synchronization clock reversing output
50	RDCKP	O	PLL differential motion making synchronization clock rotation output

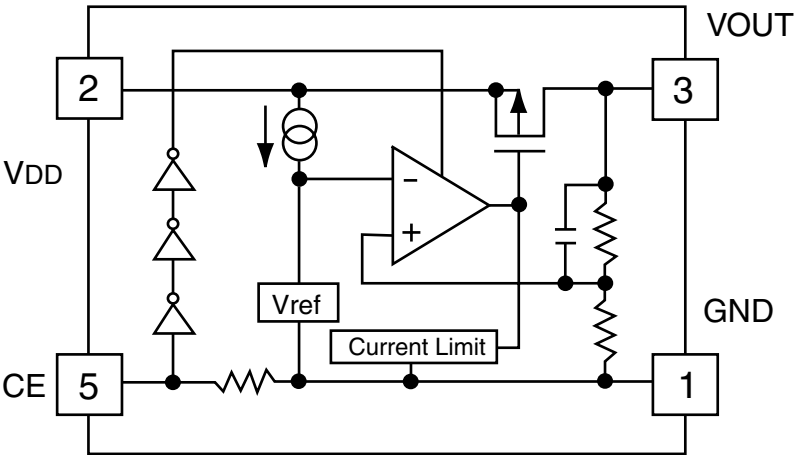
Pin No.	Symbol	I/O	Functions
51	VCC5	I	Power terminal 5 (3.3V)
52	IDGT	I	Data slice address part gate signal input terminal (For RAM)
53	DTRD	I	Data slice data read signal input terminal(For RAM)
54	CAPA	I	Data slice CAPA(Address)signal input terminal (For RAM)
55	VCC3	I	Power terminal 3 (5V)
56	PCPO	O	PLL phase gain set terminal
57	FCPO	O	PLL frequency gain set terminal
58	PLFLT2	O	PLL low-pass filter terminal
59	PLFLT	O	PLL high-pass filter terminal
60	VCOIN	I	PLL VCO input terminal
61	ITDLI	O	PLL jitter free current ripple removal filter terminal
62	FUPDN	I	PLL frequency control input terminal
63	GND3	O	Earth terminal 3
64	JITOUT	O	Detection signal output of jitter
65	BDO	O	BDO output terminal
66	OFTR	O	OFTR output terminal
67	BOOST	I	Boost control terminal for filter
68	FC	I	FC control terminal for filter
69	RFENV	O	RF envelope output terminal
70	BOTTOM	O	Bottom envelope detection filter terminal
71	PEAK	O	Peak envelope detection filter terminal
72	AGCG	O	AGC amplifier gain control terminal
73	DCAGC	O	AGC amplifier filter terminal
74	CSAG	O	Sag cancellation circuit filter terminal
75	CBDOSL	O	BDO detection capacitor terminal
76	CBD OFS	O	BDO detection capacitor terminal
77	RBCA	O	BCA detection level setting terminal
78	TESTSG	I	TEST signal input terminal
79	RFINP	I	RF signal positive input terminal
80	RFINN	I	RF signal negative input terminal
81	VCC2	I	Power terminal 2 (5V)
82	GND2	O	Earth terminal 2
83	VREF2	O	VREF2 voltage output terminal
84	COFTFS	O	OFTR detection capacitor terminal
85	COFTFL	O	OFTR detection capacitor terminal
86	RFON	O	RF signal output terminal N
87	RFOP	O	RF signal output terminal P
88	TS	O	Full adder amplifier (DVD) output terminal
89	DCRF	O	Full adder amplifier capacitor terminal
90	FS	O	Full adder amplifier (CD) output terminal
91	VIN6	I	Focus input of external division into two terminal
92	VIN5	I	Focus input of external division into two terminal
93	VCC1	I	Power terminal 1 (5V)
94	VIN1	I	External division into four (DVD/CD) RF input terminal 1
95	VIN2	I	External division into four (DVD/CD) RF input terminal 2
96	VIN3	I	External division into four (DVD/CD) RF input terminal 3
97	VIN4	I	External division into four (DVD/CD) RF input terminal 4
98	VREF4	O	VREF4 voltage output terminal
99	DIFP	O	RF signal (RAM) output terminal P
100	DIFN	O	RF signal (RAM) output terminal N

■ RN5RZ20BA-X (IC102) : High cycle module

1.Terminal layout



2.Block diagram

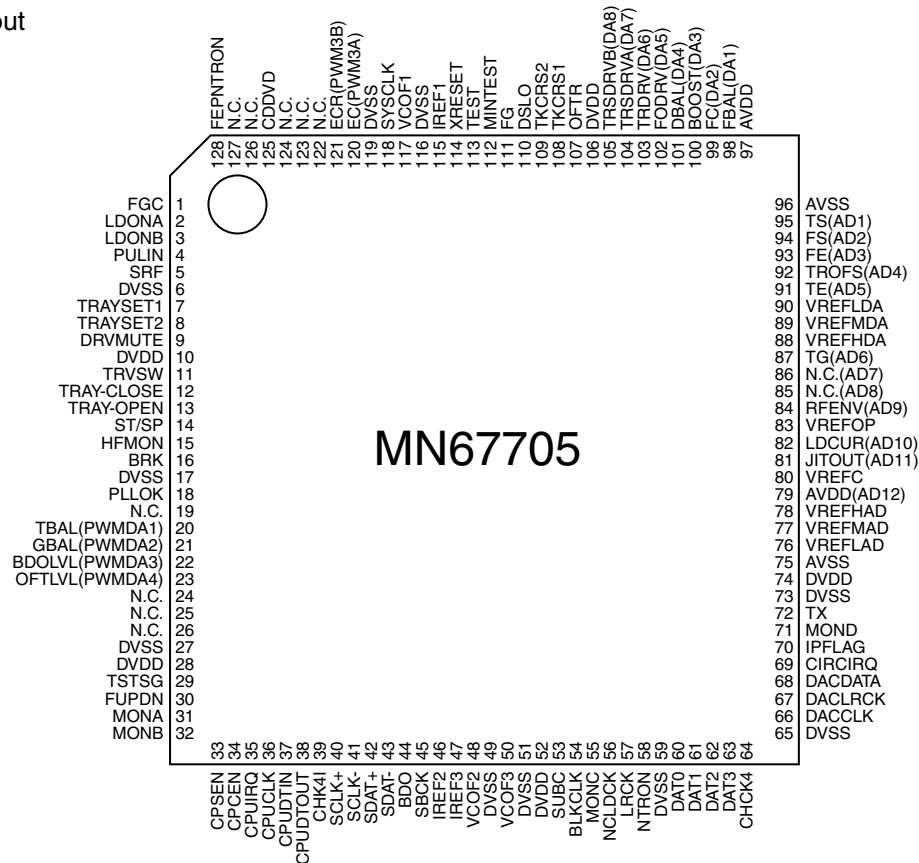


3.Pin function

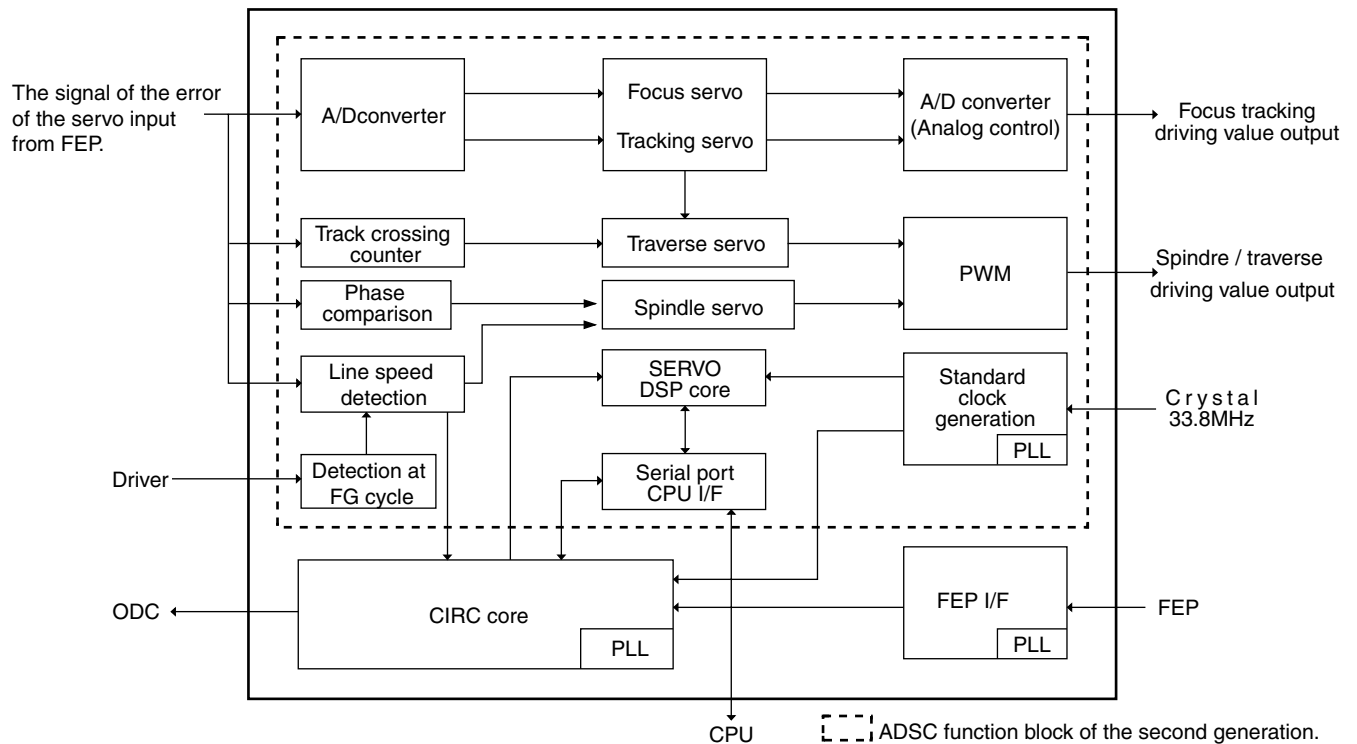
Pin No.	Pin name	Function
1	GND	Ground terminal
2	VDD	Input terminal
3	VOUT	Output terminal
4	NC	No connection
5	CE	Chip enable terminal

■ **MN67705EA (IC201) : Digital servo controller**

1. Terminal layout



2. Block diagram



3.Pin function

MN67705EA (1/3)

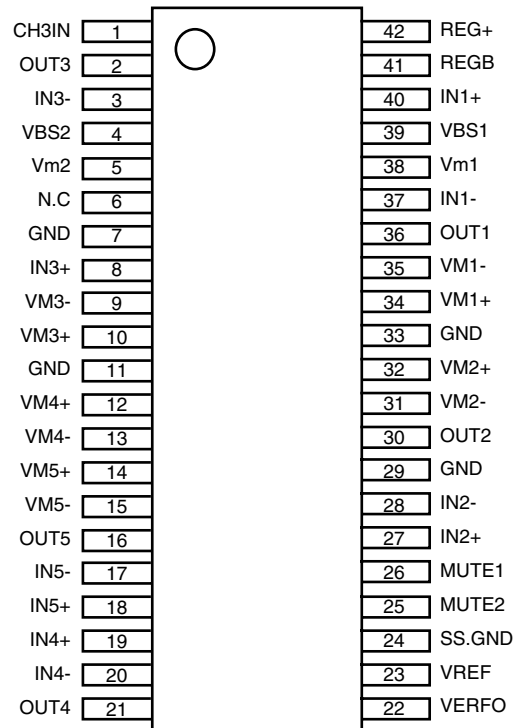
PinNo.	Symbol	I/O	Function
1	FGC	O	H fixation
2	LDONA	O	Laser drive controlA (ON / OFF)
3	LDONB	O	Laser drive controlB (ON / OFF)
4	PULIN	O	DSL and PLL high boost signal (FEP)
5	SRF	O	Head amplifier gain H/L selection
6	DVSS	—	Ground for digital circuit
7	TRAYSET1	O	Tray drive ON/OFF and direction control
8	TRAYSET2	O	Tray drive ON/OFF and direction control
9	DRVMUTE	O	Drive IC mute control
10	DVDD	—	Power supply for digital circuit
11	TRVSW	I	Surroundings position detection in traverse
12	TRAY-CLOSE	I	Tray close detection SW
13	TRAY-OPEN	I	Tray opening detection SW
14	ST/SP	O	Spindle motor drive switch (START /STOP)
15	HFMON	O	High cycle module control
16	BRK	O	Spindle motor IC short brake control
17	DVSS	—	Ground for digital circuit
18	PLLOK	I	SYNC detection (DVD : 18T / CD : 22T)
19	N.C.	O	
20	TBAL(PWMDA1)	O	Tracking balance (FEP)
21	GBAL(PWMDA2)	O	Tangential balance (FEP)
22	BDOLVL(PWMDA3)	O	BDO slice level (FEP)
23	OFTLVL(PWMDA4)	O	Off-track error slice level (FEP)
24	N.C.	O	
25	N.C.	O	
26	N.C.	O	
27	DVSS	—	Ground for digital circuit
28	DVDD	—	Power supply for digital circuit
29	TSTSG	O	Self calibration signal (FEP)
30	FUPDN	O	Signal of frequency UP/DOWN of PLL (FEP)
31	MONA	O	Monitor terminal A
32	MONB	O	Monitor terminal B
33	CPSEN	I	Servo DSP serial I/F chip selection (SYSCOM)
34	CPCEN	I	CIRC serial I/F chip selection (SYSCOM)
35	CPUIRQ	O	Interrupt request to silicon (SYSCOM)
36	CPUCLK	I	Silicon serial I/F clock (SYSCOM)
37	CPUDTIN	I	Silicon serial I/F data input (SYSCOM)
38	CPUDTOUT	O	Silicon serial I/F data output (SYSCOM)
39	CHK4I	I	Connects with unused DVSS
40	SCLK+	I	Lead channel clock differential motion signal (positive)
41	SCLK-	I	Lead channel clock differential motion signal (negative)
42	SDAT+	I	Lead channel data differential motion signal (positive)
43	SDAT-	I	Lead channel data differential motion signal (negative)
44	BDO	I	BDO + BCA (FEP)
45	SBCK	I	CD sub-code data shift clock (ODC)
46	IREF2	—	Connects with unused DVSS

PinNo.	Symbol	I/O	Function
47	IREF3	—	Connects with unused DVSS
48	VCOF2	—	Connects with unused DVSS
49	DVSS	—	Ground for digital circuit
50	VCOE3	—	Connects with unused DVSS
51	DVSS	—	Ground for digital circuit
52	DVDD	—	Power supply for digital circuit
53	SUBC	O	CD sub-code (ODC)
54	BLKCLK	O	CD sub-code synchronous signal (ODC)/Jump output of one at DVD
55	MONC	O	Monitor terminal C
56	NCLDCK	O	Sub-code data frame clock (ODC)
57	LRCK	O	LR channel data strobe CIRC(ODC)
58	NTRON	O	L: Tracking ON (ODC)
59	DVSS	—	Ground for digital circuit
60	DAT0	O	CIRC / Binary making DVD data output
61	DAT1	O	CIRC / Binary making DVD data output
62	DAT2	O	CIRC / Binary making DVD data output
63	DAT3	O	CIRC / Binary making DVD data output
64	CHCK4	O	Synchronous clock of DAT0~3
65	DVSS	—	Ground for digital circuit
66	DACCLK	O	
67	DACLRCK	I	Connects with unused DVSS
68	DACDATA	I	Connects with unused DVSS
69	CIRCIRQ	O	RAM with built-in CIRC exceeds / Underflow interrupt
70	IPFLAG	O	CIRC error flag
71	MOND	O	Monitor terminal D
72	TX	O	Digital audio interface
73	DVSS	—	Ground for digital circuit
74	DVDD	—	Power supply for digital circuit
75	AVSS	—	Ground for analog circuit
76	VREFLAD	—	AD subordinate position standard voltage ($0.6 \pm 0.1\text{V}$)
77	VREFMAD	—	It is a place standard voltage in AD ($1.4 \pm 0.1\text{V}$)
78	VREFHAD	—	High-ranking AD standard voltage ($2.2 \pm 0.1\text{V}$)
79	AVDD	—	Power supply for analog circuit
80	VREFC(AD12)	I	
81	JITOUT(AD11)	I	Jitter signal(FEP)
82	LDCUR(AD10)	I	Laser drive current signal
83	VREFOP	—	Operation amplifier standard voltage(VREFC)
84	RFENV(AD9)	I	RFENV(FEP)
85	N.C.(AD8)	I	Connects with VREFC
86	N.C.(AD7)	I	Connects with VREFC
87	TG(AD6)	I	Tangential Phase difference (FEP)
88	VREFHDA	—	High-ranking AD standard voltage ($2.2 \pm 0.1\text{V}$)
89	VREFMDA	—	It is a place standard voltage in AD ($1.4 \pm 0.1\text{V}$)
90	VREFLDA	—	AD subordinate position standard voltage ($0.6 \pm 0.1\text{V}$)
91	TE(AD5)	I	Tracking error (FEP)
92	TROFS(AD4)	I	Tracking drive IC input offset
93	FE(AD3)	I	Focus error (FEP)

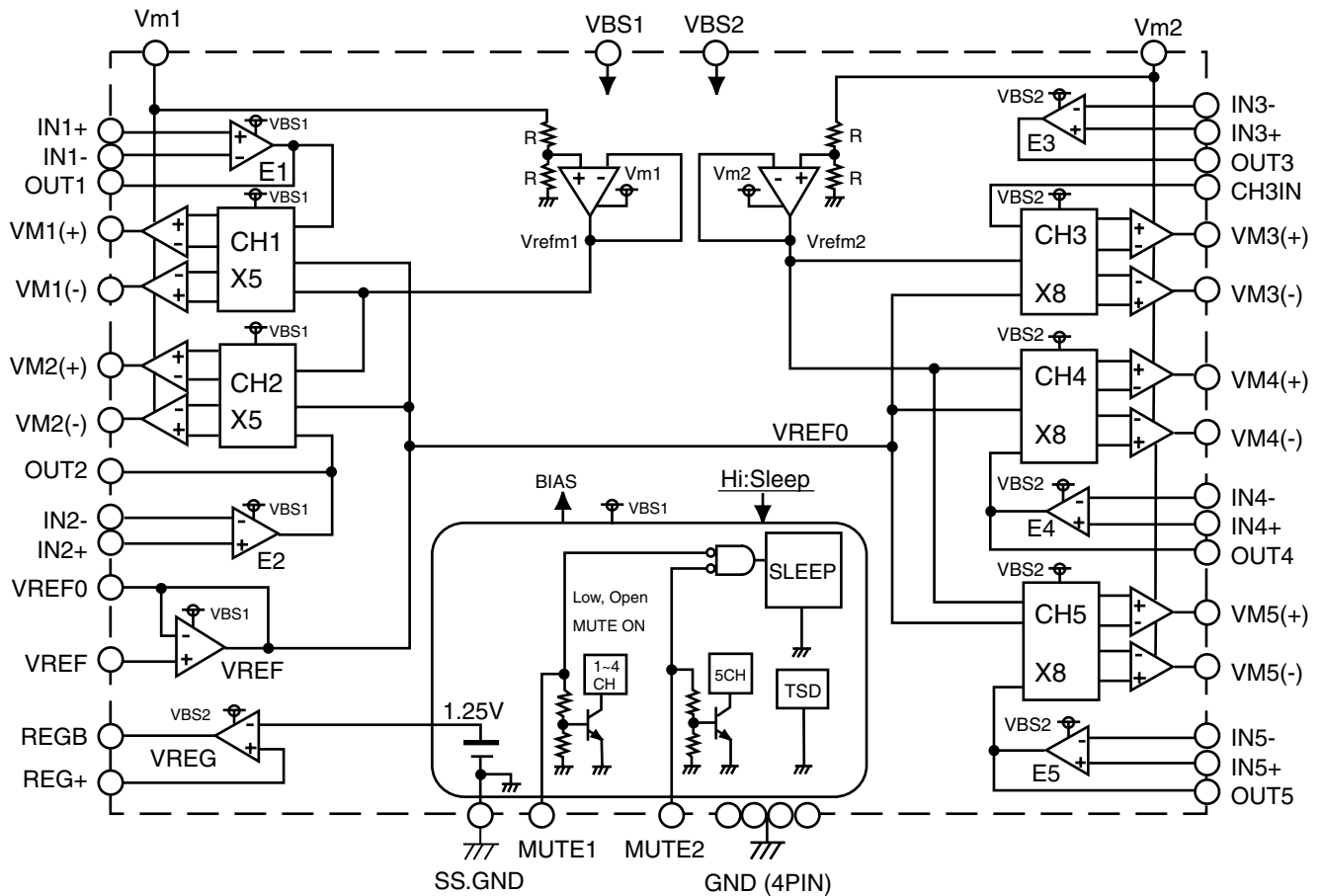
Pin No.	Symbol	I/O	Function
94	FS(AD2)	I	FS (FEP)
95	TS(AD1)	I	TS (FEP)
96	AVSS	—	Ground for analog circuit
97	AVDD	—	Power supply for analog circuit
98	FBAL(DA1)	O	Focus balance(FEP)
99	FC(DA2)	O	Cutting off frequency (FEP)
100	BOOST(DA3)	O	Amount of boost (FEP)
101	DBAL(DA4)	O	DSL offset balance (FEP)
102	FODRV(DA5)	O	Focus drive
103	TRDRV(DA6)	O	Tracking drive
104	TRSDRVA(DA7)	O	Traverse drive A aspect
105	TRSDRVB(DA8)	O	Traverse drive B aspect
106	DVDD	—	Power supply for digital circuit
107	OFTR	I	Off-track error signal (FEP)
108	TKCRS1	I	Track crossing signal 1 (FEP)
109	TKCRS2	I	Track crossing signal 2 (FEP)
110	DSLO	I	Binary making data slice signal (FEP)
111	FG	I	FG signal input (spindle motor driver)
112	MINTEST	—	Connects with DVSS
113	TEST	—	Connects with DVSS
114	XRESET	I	Reset L : Reset
115	IREF1	—	VCO reference current 1(for SYSCLK)
116	DVSS	—	Ground for digital circuit)
117	VCOF1	—	VCO control voltage 1 (for SYSCLK)
118	SYSCLK	I	33.8MHz system clock input
119	DVSS	—	Ground for digital circuit
120	EC(PWM3A)	O	Spindle motor drive
121	ECR(PWM3B)	O	
122	N.C.(PWM3A)	O	
123	N.C.(PWM2B)	O	
124	N.C.(PWM1A)	O	
125	CDDVD	O	CD/DVD control signal (FEP) CD : H DVD : L
126	N.C.(PWM0A)	O	
127	N.C.(PWM0B)	O	
128	FEPNTRON	O	Tracking ON (FEP)

■ M56788FP-W (IC271) : Traverse mechanism driver

1.Terminal layout

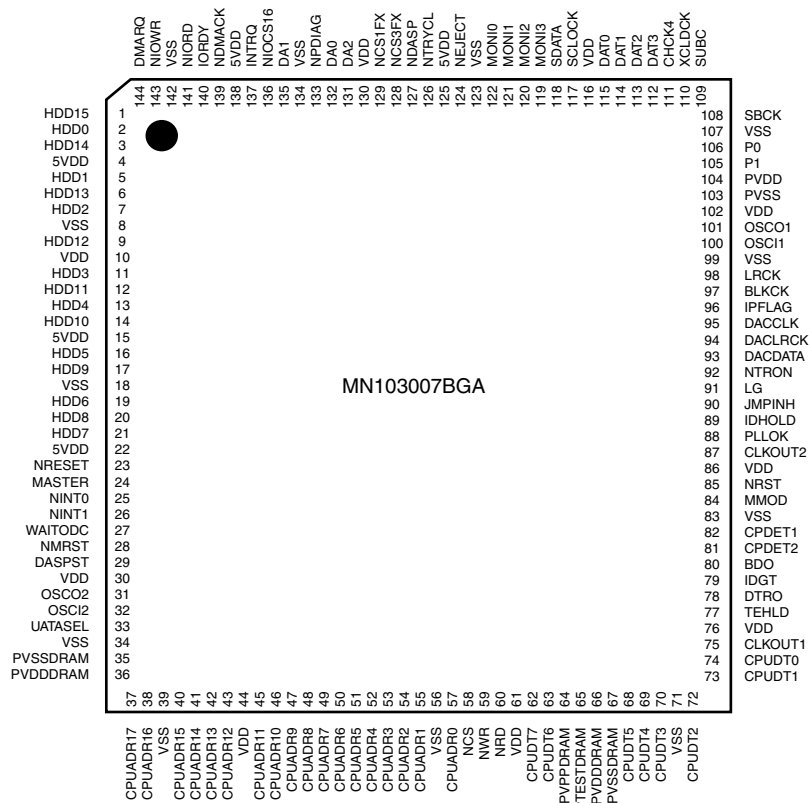


2.Block diagram

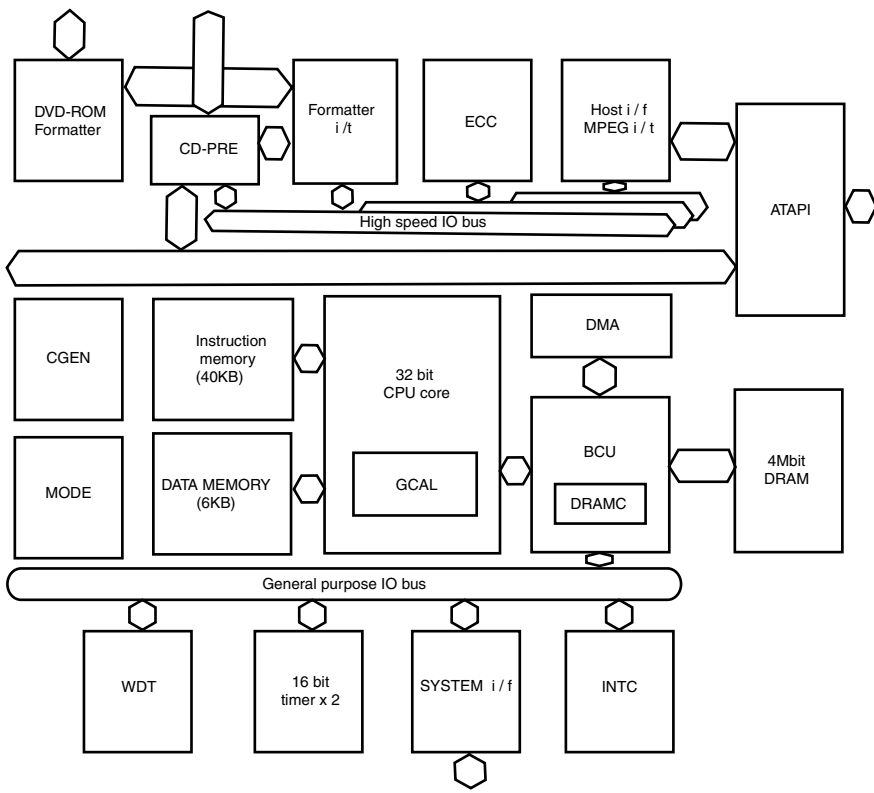


MN103007BGA (IC301) : Optical disc controller

1.Terminal layout



2.Block diagram



3.Pin function

MN103007BGA(1/4)

Pin NO.	Symbol	I/O	Function
1	HDD15	I/O	ATAPI data
2	HDD0	I/O	ATAPI data
3	HDD14	I/O	ATAPI data
4	5VDD		
5	HDD1	I/O	ATAPI data
6	HDD13	I/O	ATAPI data
7	HDD2	I/O	ATAPI data
8	VSS		
9	HDD12	I/O	ATAPI data
10	VDD		
11	HDD3	I/O	ATAPI data
12	HDD11	I/O	ATAPI data
13	HDD4	I/O	ATAPI data
14	HDD10	I/O	ATAPI data
15	5VDD		
16	HDD5	I/O	ATAPI data
17	HDD9	I/O	ATAPI data
18	VSS		
19	HDD6	I/O	ATAPI data
20	HDD8	I/O	ATAPI data
21	HDD7	I/O	ATAPI data
22	5VDD		
23	NRESET	I	ATAPI reset
24	MASTER	I/O	ATAPI master / slave selection
25	NINT0	O	System control interruption 0
26	NINT1	O	System control interruption 1
27	WAITODC	O	System control weight control
28	NMRST	O	System control reset
29	DASPST	I	DASP signal initializing
30	VDD		
31	OSCO2	I,O	VSS connection,OPEN
32	OSCI2	I,O	VSS connection,OPEN
33	UATASEL	I	VSS connection
34	VSS		
35	PVSSDRAM		
36	PVDDDRAM		
37	CPUADR17	I	System control address
38	CPUADR16	I	System control address
39	VSS		
40	CPUADR15	I	System control address
41	CPUADR14	I	System control address
42	CPUADR13	I	System control address
43	CPUADR12	I	System control address
44	VDD		System control address
45	CPUADR11	I	System control address

Pin NO.	Symbol	I/O	Function
46	CPUADR10	I	System control address
47	CPUADR9	I	System control address
48	CPUADR8	I	System control address
49	CPUADR7	I	System control address
50	CPUADR6	I	System control address
51	CPUADR5	I	System control address
52	CPUADR4	I	System control address
53	CPUADR3	I	System control address
54	CPUADR2	I	System control address
55	CPUADR1	I	System control address
56	VSS		GND
57	CPUADR0	I	System control address
58	NCS	I	System control chip select
59	NWR	I	System control write
60	NRD	I	System control read
61	VDD		Apply 3V
62	CPUDT7		System control data
63	CPUDT6		System control data
64	PVPPDRAM	O	C=10000PF is connected between VSS
65	PTESTDRAM	I	VSS connected
66	PVDDDRAM		
67	PVSSDRAM		
68	CPUDT5		System control data
69	CPUDT4		System control data
70	CPUDT3		System control data
71	VSS		GND
72	CPUDT2		System control data
73	CPUDT1	I/O	System control data
74	CPUDT0	I/O	System control data
75	CLKOUT1	O	16.9/11.2/8.45MHz clock
76	VDD	-	Apply 3V
77	TEHLD	O	Mirror gate
78	DTRO	O	Data part frequency control switch
79	IDGT	O	Part CAPA switch
80	BDO	I	RF dropout / BCA data of making to binary
81	CPDET2	I	Outer side CAPA detection
82	CPDET1	I	Side of surroundings on inside
83	VSS		GND
84	MMOD	I	VSS connected
85	NRST	I	System reset
86	VDD	-	Apply 3V
87	CLKOUT2	O	16.9MHz clock
88	PLLOK	O	Frame mark detection
89	IDHOLD	O	ID gate for tracking holding
90	JMPINH	O	Jump prohibition

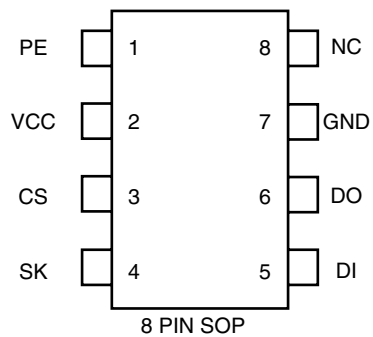
MN103007BGA(3/4)

Pin NO.	Symbol	I/O	Function
91	LG	O	Land / group switch
92	NTRON	I	Tracking ON
93	DACDATA	O	Serial output
94	DACLRCK	O	L and R identification output
95	DACCLK	I	Clock for serial output
96	IPFLAG	I	Interpolation flag input
97	BLKCK	I	Sub-code,Block clock input
98	LRCK	I	L and R identification signal output
99	VSS		
100	OSCI1	I,O	16.9MHz oscillation
101	OSCO1	I,O	16.9MHz oscillation
102	VDD		
103	PVSS		
104	PVDD		
105	P1	I/O	Terminal MASTER polarity switch input
106	P0	I/O	CIRC-RAM OVER/UNDER Interruption signal input
107	VSS		
108	SBCK	O	Sub-code, Clock output for serial input
109	SUBC	I	Sub-code, Serial input
110	XCLDCK	I	Sub-code, Frame clock input
111	CHCK4	I	Read clock to DAT3~0 (Output of dividing frequency four from ADSC)
112	DAT3	I	Read data from DISC (Parallel output from ADSC)
113	DAT2		
114	DAT1		
115	DAT0		
116	VDD		
117	SCLOCK	I/O	Debugging serial clock (270 Ω pull up)
118	SDATA	I/O	Debugging serial data (270 Ω pull up)
119	MONI3	O	Internal goods title monitor
120	MONI2	O	
121	MONI1	O	
122	MONI0	O	
123	VSS		
124	NEJECT	I	Eject detection
125	5VDD		
126	NTRYCL	I	Tray close detection
127	NDASP	I/O	ATAPI Drive active/ Slave connection I/O
128	NCS3FX	I	ATAPI host chip select
129	NCS1FX	I	ATAPI host chip select
130	VDD		
131	DA2	I/O	ATAPI host address
132	DA0	I/O	ATAPI host address

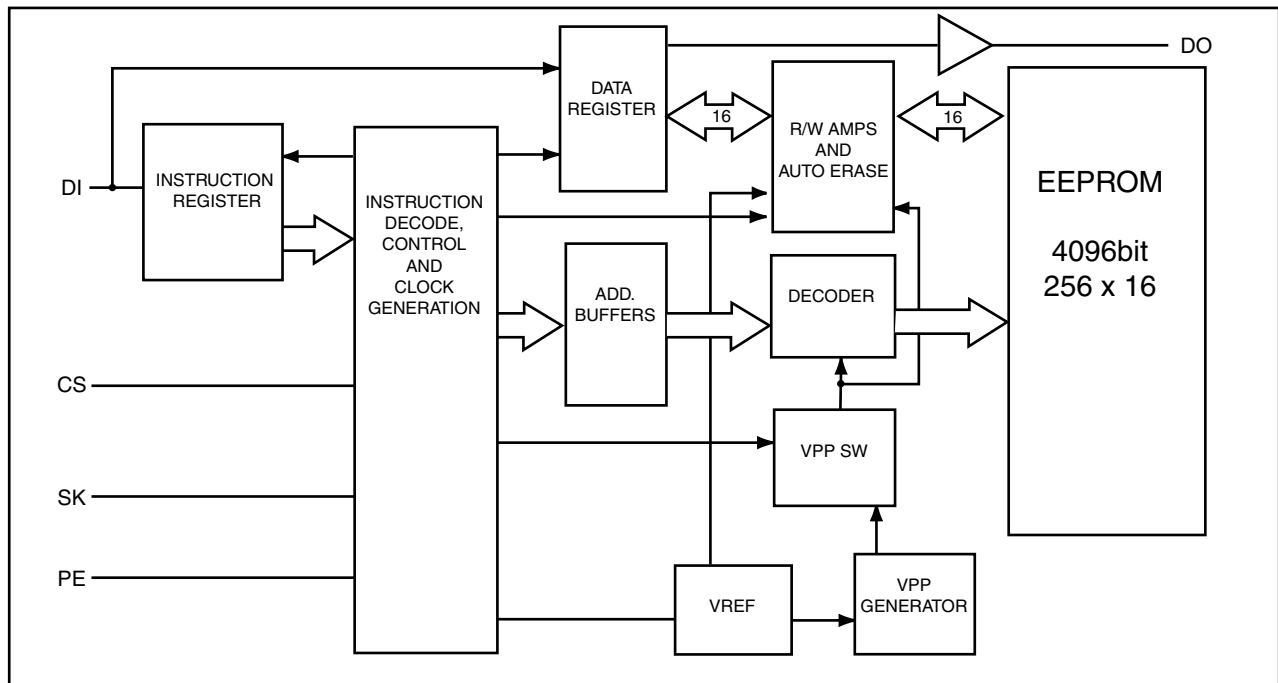
Pin NO.	Symbol	I/O	Function
133	NPDIAG	I/O	ATAPI slave master diagnosis input
134	VSS		
135	DA1	I/O	ATAPI host address
136	NIOCS16	O	ATAPI output of selection of width of host data bus
137	INTRQ	O	ATAPI host interruption output
138	5VDD		
139	NDMACK	I	ATAPI host DMA response
140	IORDY	O	ATAPI host ready output
141	NIORD	I	ATAPI host read
142	VSS		
143	NIOWR	I/O	ATAPI host write
144	DMARQ	O	ATAPI host DMA demand

AK93C65AF-X (IC403) : EEPROM

1.Terminal layout



2.Block diagram



3.Pin function

Pin no.	Symbol	Function
1	PE	Program enable (With built-in pull-up resistor)
2	VCC	Power supply
3	CS	Chip select
4	SK	Serial clock input
5	DI	Serial data input
6	DO	Serial data output
7	GND	Ground
8	NC	No connection

NOTE : The pull-up resistor of the PE pin is about 2.5M Ω (VCC=5V)

■ ZIVA3-PEO (IC501) : AV Decoder

1.Pin function

ZIVA3-PEO (1/5)

Pin No.	Symbol	I/O	Function
1	TEST PIN0	I/O	Programmable I/O pins. Input mode after reset.
2	HDATA0	I/O	8-bit bi-directional host data bus. writes data to the decoder Code FIFO via HDATA. MSB of the 32-bit word is written first. The host also reads and writes the decoder internal registers and local SDRAM via HDATA.
3	HDATA1		
4	HDATA2		
5	E VDD	-	3.3-V supply voltage for I/O signals.
6	HDATA3	I/O	8-bit bi-directional host data bus. writes data to the decoder Code FIFO via HDATA. MSB of the 32-bit word is written first. The host also reads and writes the decoder internal registers and local SDRAM via HDATA.
7	E VSS	-	Ground for core logic and I/O signals.
8	HDATA4	I/O	8-bit bi-directional host data bus. writes data to the decoder Code FIFO via HDATA. MSB of the 32-bit word is written first. The host also reads and writes the decoder internal registers and local SDRAM via HDATA.
9	HDATA5		
10	HDATA6		
11	HDATA7		
12	i vdd	-	2.5-V supply voltage for core logic.
13	RST	I	Hardware reset. An external device asserts $\overline{\text{RESET}}$ (active LOW) to execute a decoder hardware reset. To ensure proper initialization after power is stable, assert RESET for at least 20 ms.
14	i vss	-	Ground for core logic and I/O signals.
15	WAIT	O	Transfer not complete / data acknowledge. Active LOW to indicate host initiated transfer is not complete. WAIT is asserted after the falling edge of $\overline{\text{CS}}$ and reasserted when decoder is ready to complete transfer cycle. Open drain signal, must be pulled-up via 1kW to 3.3 volts. Driven high for 10 ns before tristate.
16	INT	O	Host interrupt. Open drain signal, must be pulled-up via 4.7kW to 3.3 volts. Driven high for 10 ns before tristate.
17	E VDD	-	3.3-V supply voltage for I/O signals.
18	ARAM OE	-	Connected to TP540
19	E VSS	-	Ground for core logic and I/O signals.
20	ARAM WE	-	Connected to TP541
21	ARAM DATA0	-	Not used (Programmable I/O pins. Input mode after reset)
22	ARAM DATA1		
23	ARAM DATA2		
24	ARAM DATA3		
25	ARAM DATA4		
26	ARAM DATA5		
27	E VDD	-	3.3-V supply voltage for I/O signals.
28	ARAM DATA6	-	Not used (Programmable I/O pins. Input mode after reset)
29	E VSS	-	Ground for core logic and I/O signals.
30	ARAM DATA7	-	Not used (Programmable I/O pins. Input mode after reset)
31	ARAM ADDR0	-	Connected to TP550
32	ARAM ADDR1	-	Connected to TP551
33	ARAM ADDR2	-	Connected to TP552
34	ARAM ADDR3	-	Connected to TP553
35	ARAM ADDR4	-	Connected to TP554
36	E VDD	-	3.3-V supply voltage for I/O signals.
37	ARAM ADDR5	-	Connected to TP555
38	E VSS	-	Ground for core logic and I/O signals.
39	ARAM ADDR6	-	Connected to TP556
40	i vdd	-	2.5-V supply voltage for core logic.
41	ARAM ADDR7	-	Connected to TP557
42	i vss	-	Ground for core logic and I/O signals.

Pin No.	Symbol	I/O	Function
43	ARAM ADDR8	-	Connected to TP558
44	ARAM ADDR9	-	Connected to TP559
45	ARAM ADDR10	-	Connected to TP560
46	ARAM ADDR11	-	Connected to TP561
47	E VDD	-	3.3-V supply voltage for I/O signals.
48	ARAM ADDR12	-	Connected to TP562
49	E VSS	-	Ground for core logic and I/O signals.
50	ARAM ADDR13	-	Connected to TP563
51	ARAM ADDR14	-	Connected to TP564
52	TEST PIN1	I/O	Programmable I/O pins. Input mode after reset
53	MDATA 15	I/O	Memory data
54	MDATA 0	I/O	Memory data
55	E VDD	-	3.3-V supply voltage for I/O signals.
56	MDATA 14	I/O	Memory data.
57	E VSS	-	Ground for core logic and I/O signals.
58	MDATA 1	I/O	Memory data.
59	MDATA 13		
60	MDATA 2		
61	E VDD	-	3.3-V supply voltage for I/O signals.
62	MDATA 12	I/O	Memory data.
63	E VSS	-	Ground for core logic and I/O signals.
64	MDATA 3	I/O	Memory data.
65	i vdd	-	2.5-V supply voltage for core logic.
66	MDATA 11	I/O	Memory data.
67	i vss	-	Ground for core logic and I/O signals.
68	MDATA 4	I/O	Memory data.
69	E VDD	-	3.3-V supply voltage for I/O signals.
70	MDATA 10	I/O	Memory data.
71	E VSS	-	Ground for core logic and I/O signals.
72	MDATA 5	I/O	Memory data.
73	MDATA 9		
74	MDATA 6		
75	E VDD	-	3.3-V supply voltage for I/O signals.
76	MDATA 8	I/O	Memory data.
77	E VSS	-	Ground for core logic and I/O signals.
78	MDATA 7	I/O	Memory data.
79	LDQM	O	SDRAM LDQM.
80	UDQM	O	SDRAM UDQM.
81	E VDD	-	3.3-V supply voltage for I/O signals.
82	MWE	O	SDRAM write enable. Decoder asserts active LOW to request a write operation to the SDRAM array.
83	E VSS	-	Ground for core logic and I/O signals.
84	SD CLK	O	SDRAM system clock.
85	SD CAS	O	Active LOW SDRAM column address.
86	SD RAS	O	Active LOW SDRAM row address.
87	E VDD	-	3.3-V supply voltage for I/O signals.
88	SD CS1	O	Active LOW SDRAM bank select.
89	E VSS	-	Ground for core logic and I/O signals.
90	SD CS0	O	Active LOW SDRAM bank select.
91	i vdd	-	2.5-V supply voltage for core logic.
92	EDO CAS	-	Connected to TP511
93	i vss	-	Ground for core logic and I/O signals.
94	EDO RAS	-	Connected to TP512
95	E VDD	-	3.3-V supply voltage for I/O signals.
96	MADDR 9	O	Memory address.
97	E VSS	-	Ground for core logic and I/O signals.
98	MADDR 11	O	Memory address.

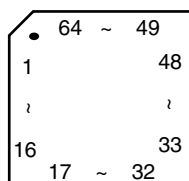
Pin No.	Symbol	I/O	Function
99	MADDR8	O	Memory address.
100	MADDR10		
101	E VDD	-	3.3-V supply voltage for I/O signals.
102	MADDR 7	O	Memory address.
103	E VSS	-	Ground for core logic and I/O signals.
104	MADDR 0	O	Memory address.
105	MADDR 6		
106	MADDR 1		
107	E VDD	-	3.3-V supply voltage for I/O signals.
108	MADDR 5	O	Memory address.
109	E VSS	-	Ground for core logic and I/O signals.
110	MADDR 2	O	Memory address.
111	MADDR 4		
112	MADDR 3		
113	E VDD	-	3.3-V supply voltage for I/O signals.
114	MADDR 12	-	Connected to TP513
115	E VSS	-	Ground for core logic and I/O signals.
116	MADDR 13	-	Connected to TP514
117	i vdd	-	2.5-V supply voltage for core logic.
118	MADDR 14	-	Connected to TP515
119	i vss	-	Ground for core logic and I/O signals.
120	MADDR 15	-	Connected to TP516
121	MADDR 16	-	Connected to TP517
122	MADDR 17	-	Connected to TP518
123	E VDD	-	3.3-V supply voltage for I/O signals.
124	MADDR 18	-	Connected to TP519
125	E VSS	-	Ground for core logic and I/O signals.
126	MADDR 19	-	Connected to TP520
127	MADDR 20	-	Connected to TP521
128	ROM CS	-	Connected to TP522
129	TEST PIN2	I/O	Programmable I/O pins. Input mode after reset.
130	OSD CLK	-	Connected to TP523
131	OSD DATA0	-	Connected to TP525
132	OSD DATA1	-	Connected to TP526
133	TEST PIN3	I/O	Programmable I/O pins. Input mode after reset.
134	E VDD	-	3.3-V supply voltage for I/O signals.
135	OSD DATA2	-	Connected to TP528
136	E VSS	-	Ground for core logic and I/O signals.
137	OSD DATA3	-	Connected to TP529
138	TEST PIN4	I/O	Programmable I/O pins. Input mode after reset.
139	OSD BLK1	-	Connected to TP531
140	OSD VC1	-	Connected to TP532
141	TEST PIN5	I/O	Programmable I/O pins. Input mode after reset.
142	VDATA0	O	Video data bus. Byte serial CbYCrY data synchronous with VCLK. At power-up, the decoder does not drive VDATA. During boot-up, the decoder uses configuration parameters to drive or 3-state VDATA
143	VDATA1		
144	i vdd	-	2.5-V supply voltage for core logic.
145	VDATA2	O	Video data bus. Byte serial CbYCrY data synchronous with VCLK. At power-up, the decoder does not drive VDATA. During boot-up, the decoder uses configuration parameters to drive or 3-state VDATA
146	i vss	-	Ground for core logic and I/O signals.
147	TEST PIN6	I/O	Programmable I/O pins. Input mode after reset.
148	VDATA3	O	Video data bus. Byte serial CbYCrY data synchronous with VCLK. At power-up, the decoder does not drive VDATA. During boot-up, the decoder uses configuration parameters to drive or 3-state VDATA

Pin No.	Symbol	I/O	Function
149	E VDD	-	3.3-V supply voltage for I/O signals.
150	VDATA4	O	Video data bus. Byte serial CbYCrY data synchronous with VCLK. At power-up, the decoder does not drive VDATA. During boot-up, the decoder uses configuration parameters to drive or 3-state VDATA
151	E VSS	-	Ground for core logic and I/O signals.
152	VDATA5	O	Video data bus. Byte serial CbYCrY data synchronous with VCLK. At power-up, the decoder does not drive VDATA. During boot-up, the decoder uses configuration parameters to drive or 3-state VDATA
153	TEST PIN7	I/O	Programmable I/O pins. Input mode after reset.
154	VDATA6	O	Video data bus. Byte serial CbYCrY data synchronous with VCLK. At power-up, the decoder does not drive VDATA. During boot-up, the decoder uses configuration parameters to drive or 3-state VDATA
155	VDATA7		
156	TEST PIN8	I/O	Programmable I/O pins. Input mode after reset.
157	HSYNC	I/O	Horizontal sync. The decoder begins outputting pixel data for a new horizontal line after the falling (active) edge of HSYNC.
158	VSNC	I/O	Vertical sync. Bi-directional, the decoder outputs the top border of a new field on the first HSYNC after the falling edge of VSNC. VSNC can accept vertical synchronization or top/bottom field notification from an external source. (VSNC HIGH = bottom field. VSNC LOW = Top field)
159	IEC 958	O	Bistream data in IEC-1937 or PCM data out in IEC-958 format.
160	E VDD	-	3.3-V supply voltage for I/O signals.
161	DA DATA0	O	PCM data out, eight channels. Serial audio samples relative to DA-BCK clock.
162	E VSS	-	Ground for core logic and I/O signals.
163	DA DATA1	O	PCM data out, eight channels. Serial audio samples relative to DA-BCK clock.
164	DA DATA2		
165	DA DATA3		
166	DA LRCK	O	PCM left-right clock. Identifies the channel for each audio sample. the polarity is programmable.
167	DA BCK	O	PCM bit clock. Divided by 8 from DA-XCK can be either 48 or 32 times the sampling clock.
168	i vdd	-	2.5-V supply voltage for core logic.
169	DA XCK	I/O	Audio master frequency clock. Used to generate DA-BCK and DA-LRCK. DA-XCK can be either 384 or 256 times the sampling frequency.
170	i vss	-	Ground for core logic and I/O signals.
171	DAI DATA	I	PCM input data. two channels. Serial audio samples relative to DAI-BCK clock.
172	DAI LRCK	I	PCM input left-right clock.
173	DAI BCK	I	PCM input bit clock.
174	TEST PIN9	I/O	Programmable I/O pins. Input mode after reset.
175	CLK SEL	I	Clock Select: Internal = VDD, External = VSS
176	A vdd	-	3.3-V analog supply voltage.
177	VCLK	I	Video clock. Clocks out data on input. VDATA7. Clock is typically 27 MHz.
178	SYSCLK	I	System clock. Decoder requires external 27 MHz TTL oscillator. Drive with the same 27-MHz as VCK.
179	A vss	-	Analog ground for PLL
180	DVD DATA0	I	Serial CD data. This pin is shared with DVD compressed data DVD-DATA0.
181	E VDD	-	3.3-V supply voltage for I/O signals.
182	DVD DATA1	I	Programmable polarity 16-bit word synchronization to the decoder (right channel HIGH). This pin is shared with DVD compressed data DVD-DATA1.
183	E-VSS	-	Ground for core logic and I/O signals.
184	DVD DATA2	I	CD bit clock. Decoder accept multiple BCK rates. This pin is shared with DVD compressed data DVD-DATA2.
185	DVD DATA3	I	Asserted HIGH indicates a corrupted byte. Decoder keeps the previous valid picture on-screen until the next valid picture is decoded. This pin is shared with DVD compressed data DVD-DATA3.

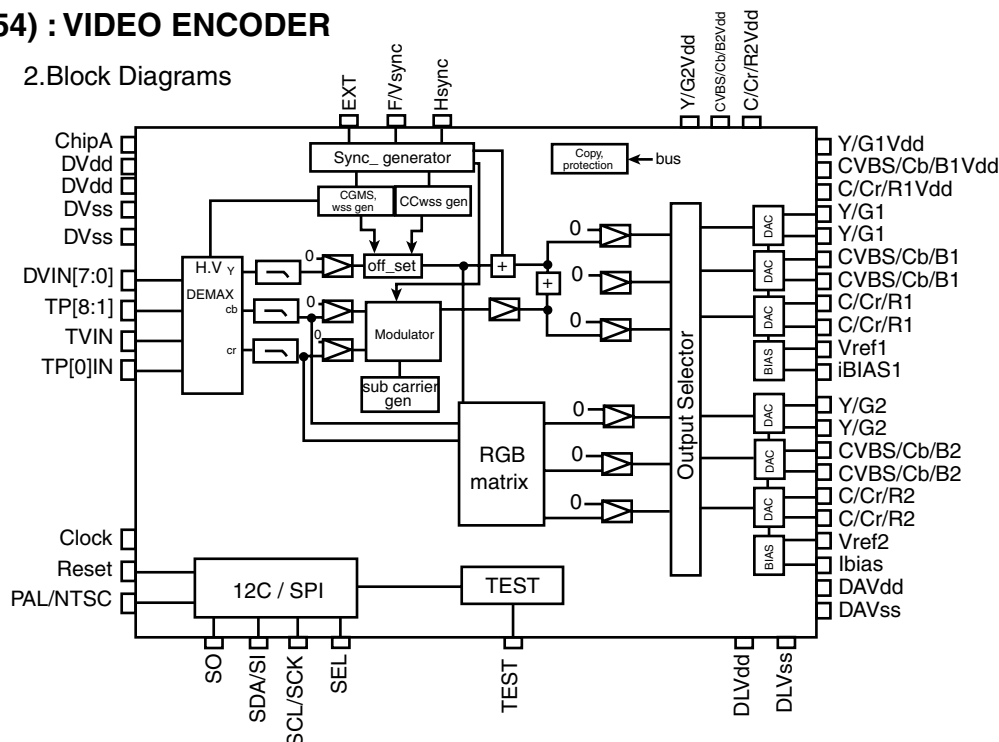
Pin No.	Symbol	I/O	Function
186	DVD DATA4	I	DVD parallel compressed data from DVD DSP. When DVD DSP sends 32-bit words, it must write the MSB first.
187	DVD DATA5		
188	DVD DATA6		
189	DVD DATA7		
190	TEST PIN10	I/O	Programmable I/O pins. Input mode after reset.
191	V REQUEST	O	Video request. Decoder asserts VREQUEST to indicate that the video input buffer has available space. Polarity is programmable.
192	V STROBE	I	Video strobe. Programmable dual mode pulse. Asynchronous and synchronous. In Asynchronous mode, an external source pulses VSTROBE to indicate data is ready for transfer. In synchronous mode VSTROBE clock data.
193	i vdd	-	3.3-V supply voltage for I/O signals.
194	A REQUEST	-	Connected to TP539
195	i vss	-	Ground for core logic and I/O signals.
196	V DACK	I	In synchronous mode, Video data acknowledge. Asserted when DVD data is valid. Polarity is programmable.
197	E VDD	-	2.5-V supply voltage for core logic.
198	SECT-SYNC	I	Host write
199	E VSS	-	Ground for core logic and I/O signals.
200	ERROR	I	Error in input data. If ERROR signal is not available from the DSP it must be grounded.
201	HOST8 SEL	I	Always Tie to VDD-3.3
202	HADDR0	I	Host address bus. 3-bit address bus selects one of eight host interface registers.
203	HADDR1		
204	HADDR2		
205	DTACK SEL	I	Tie HIGH to select $\overline{\text{WAIT}}$ signal, LOW to select $\overline{\text{DTACK}}$ signal (Motorola 68K mode).
206	$\overline{\text{CS}}$	I	Host chip select. Host asserts CS to select the decoder for a read or write operation. The falling edge of this signal triggers the read or write operation.
207	R/ $\overline{\text{W}}$	I	Read/write strobe in M mode. write strobe in I mode. Host asserts R/ $\overline{\text{W}}$ LOW to select write and LOW to select read.
208	$\overline{\text{RD}}$	I	Read strobe in I mode. Must be held HIGH in M Mode

■ MC44724AVFU (IC554) : VIDEO ENCODER

1. Terminal Layout



2. Block Diagrams



3. Pin function

No.	Symbol	I/O	Function	No.	Symbol	I/O	Function
1	CVBS/Cb/B	O	Analog composite drive signal (+)	33	SD	-	Non connect
2	CVBS/Cb/B	O	Analog composite drive signal (-)	34	SDA/SI	I	SPI Mode : Serial data input
3	CVBS/Cb/B Vdd	-	Power supply for CVBS/Cb/B DAC1	35	SCL/SCK	I	Serial clock input
4	Y/G	O	Analog brightness signal/G drive signal (+)	36	SEL	I	Power supply for serial data, chip select, digital
5	Y/G	O	Analog brightness signal/G drive signal (-)	37	DVdd	--	Power supply for digital circuit
6	Y/G /Vdd	-	Power supply for Y/G DAC	38	DVss	--	Digital ground
7	C/Cr/R	O	Analog chroma signal (+)	39	DVIN7	I/O	Y data input / test data I/O
8	C/Cr/R	O	Analog chroma signal (-)	40	DVIN6	I/O	Y data input / test data I/O
9	C/Cr/R Vdd	-	Power supply for C/Cr/RDAC	41	DVIN5	I/O	Y data input / test data I/O
10	DAVss	-	Connect to ground for DAC	42	DVIN4	I/O	Y data input / test data I/O
11	TBIAS1	O	Standard BIAS for DAC1	43	DVIN3	I/O	Y data input / test data I/O
12	Vref1	-	Standard voltage for DAC1	44	DVIN2	I/O	Y data input / test data I/O
13	DAVdd	-	Power supply for DAC	45	DVIN1	I/O	Y data input / test data I/O
14	Vref2	-	Standard voltage for DAC2	46	DVIN0	I/O	Y data input / test data I/O
15	TBIAS2	O	Standard BIAS for DAC2	47	TVIN	I	VIDEO mute on Reset(0:normal, 1:mute)
16	NC	-	Non connect	48	EXT	I/O	Frame output / VBI information input
17	CVBS/Cb/B	O	Analog composite drive signal (+)	49	F/Vsync	I/O	Frame / Vertical, synchronous I/O
18	CVBS/Cb/B	O	Analog composite drive signal (-)	50	Hsync	I/O	The horizontal, synchronous I/O
19	CVBS/Cb/B Vdd	-	Power supply for CVBS/Cb/B DAC2	51	DATST	I	Data input
20	Y/G	O	Analog brightness signal/G drive signal (+)	52	TP8	I/O	Multiplex data input
21	Y/G	O	Analog brightness signal/G drive signal (-)	53	TP7	I/O	Multiplex data input
22	Y/G Vdd	-	Power supply for Y/G DAC	54	TP6	I/O	Multiplex data input
23	C/Cr/R	O	Analog chroma signal (+)	55	TP5	I/O	Multiplex data input
24	C/Cr/R	O	Analog chroma signal (-)	56	DVss	-	Ground for digital circuit
25	C/Cr/R Vdd	-	Power supply for C/Cr/RDAC2	57	DVdd	-	Power supply for digital circuit
26	ChipA	-	Chip address selection	58	TP4	I/O	Data input / Test data I/O
27	TEST	I	Connect to test pin	59	TP3	I/O	Data input / Test data I/O
28	DVss	-	Digital ground	60	TP2	I/O	Data input / Test data I/O
29	CLOCK	I	Clock signal input (27MHz)	61	TP1	I/O	Data input / Test data I/O
30	DVdd	-	Power supply for digital circuit	62	TP0	I/O	Data input / Test data I/O
31	Reset	I	Reset signal input L:ON	63	DLVdd	-	Power supply for D/A converter
32	PAL/NTSC	I	Selection NTSC/PAL NTSC:L PAL:H	64	DLVss	-	Ground for D/A converter

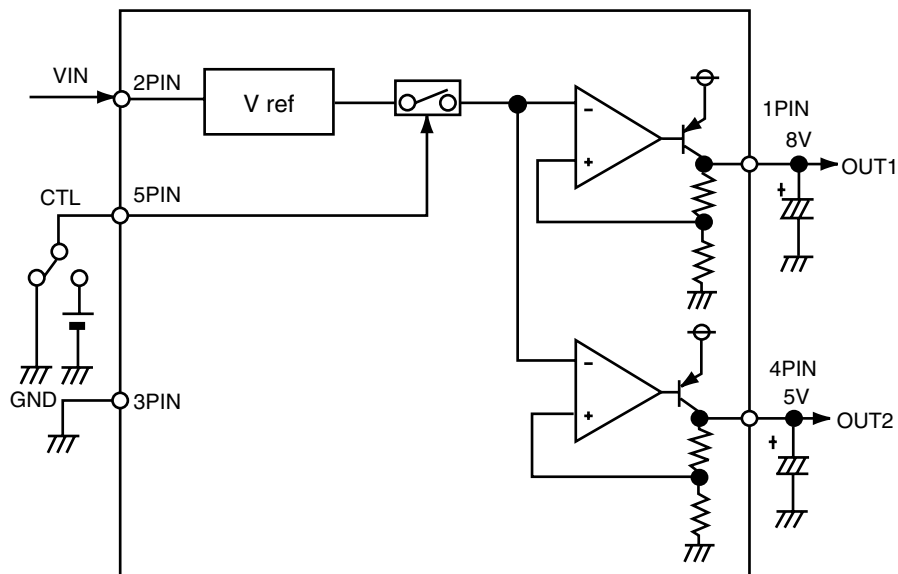
■ MN102L25GHB (IC401) : UNIT CPU

1.Pin function

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	WAIT	I	Micon wait signal input	51	FGIN	I	Photo input
2	RE	O	Read enable	52	-	-	Non connect
3	MUTE	O	Driver mute	53	ADSCEN	O	Serial enable signal for ADSC
4	WEM	O	Write enable	54	VDD	-	Non connect
5	CS0	O	Non connect	55	FEPEN	O	Serial enable signal for FEP
6	CS1	O	Chip select for ODC	56	SLEEP	O	Standby signal for FEP
7	CS2	O	Chip select for ZIVA	57	BUSY	I	Communication busy
8	CS3	O	Chip select for outer ROM	58	REQ	O	Communication Request
9	FGCONT	O	Photo control	59	CIRCEN	O	CIRC command select
10	/SPKICK	O	Spin kick	60	HSSEEK	O	Seek select
11	LSIRST	O	LSI reset	61	VSS	-	Power supply
12	WORD	O	Bus selection input	62	EPCS	O	EEPROM chip select
13	A0	O	Address bus 0 for CPU	63	EPSK	O	EEPROM clock
14	A1	O	Address bus 1 for CPU	64	DPDI	I	EEPROM data input
15	A2	O	Address bus 2 for CPU	65	EPDO	O	EEPROM data output
16	A3	O	Address bus 3 for CPU	66	VDD	-	Power supply
17	VDD	-	Power supply	67	SCLK0	I	Communication clock
18	SYSCCLK	O	System clock signal output	68	S2UDT	I	Communication input data
19	VSS	-	Power supply	69	U2SDT	O	Communication output data
20	XI	-	Non connect	70	CPSCK	O	Clock for ADSC serial
21	XO	-	Non connect	71	SDIN	I	ADSC serial data input
22	VDD	-	Power supply	72	SDOUT	O	ADSC serial data output
23	OSCI	I	Clock signal input(13.5MHz)	73	-	-	Non connect
24	OSCO	O	Clock signal output(13.5MHz)	74	-	-	Non connect
25	MODE	I	CPU Mode selection input	75	NMI	-	Non connect
26	A4	O	Address bus 4 for CPU	76	ADSCIRQ	I	Interrupt input of ADSC
27	A5	O	Address bus 5 for CPU	77	ODCIRQ	I	Interrupt input of ODC
28	A6	O	Address bus 6 for CPU	78	DECIRQ	I	Interrupt input of ZIVA
29	A7	O	Address bus 7 for CPU	79	WAKEUP	O	Non connect
30	A8	O	Address bus 8 for CPU	80	ODCIRQ2	I	Non connect
31	A9	O	Address bus 9 for CPU	81	ADSEP	I	Address data selection input
32	A10	O	Address bus 10 for CPU	82	RST	I	Reset input
33	A11	O	Address bus 11 for CPU	83	VDD	-	Power supply
34	VDD	-	Power supply	84	TEST1	I	Test signal 1 input
35	A12	O	Address bus 12 for CPU	85	TEST2	I	Test signal 2 input
36	A13	O	Address bus 13 for CPU	86	TEST3	I	Test signal 3 input
37	A14	O	Address bus 14 for CPU	87	TEST4	I	Test signal 4 input
38	A15	O	Address bus 15 for CPU	88	TEST5	I	Test signal 5 input
39	A16	O	Address bus 16 for CPU	89	TEST6	I	Test signal 6 input
40	A17	O	Address bus 17 for CPU	90	TEST7	I	Test signal 7 input
41	A18	O	Address bus 18 for CPU	91	TEST8	I	Test signal 8 input
42	A19	O	Address bus 19 for CPU	92	VSS	-	Power supply
43	VSS	-	Power supply	93	D0	I/O	Data bus 0 of CPU
44	A20	O	Address bus 20 for CPU	94	D1	I/O	Data bus 1 of CPU
45	TXSEL	O	TX Select	95	D2	I/O	Data bus 2 of CPU
46	TMPSN	O	Non connect	96	D3	I/O	Data bus 3 of CPU
47	-	-	Non connect	97	D4	I/O	Data bus 4 of CPU
48	ADPD	O	AD Power down	98	D5	I/O	Data bus 5 of CPU
49	-	-	Non connect	99	D6	I/O	Data bus 6 of CPU
50	TRVSW	I	Detection switch of traverse inside	100	D7	I/O	Data bus 7 of CPU

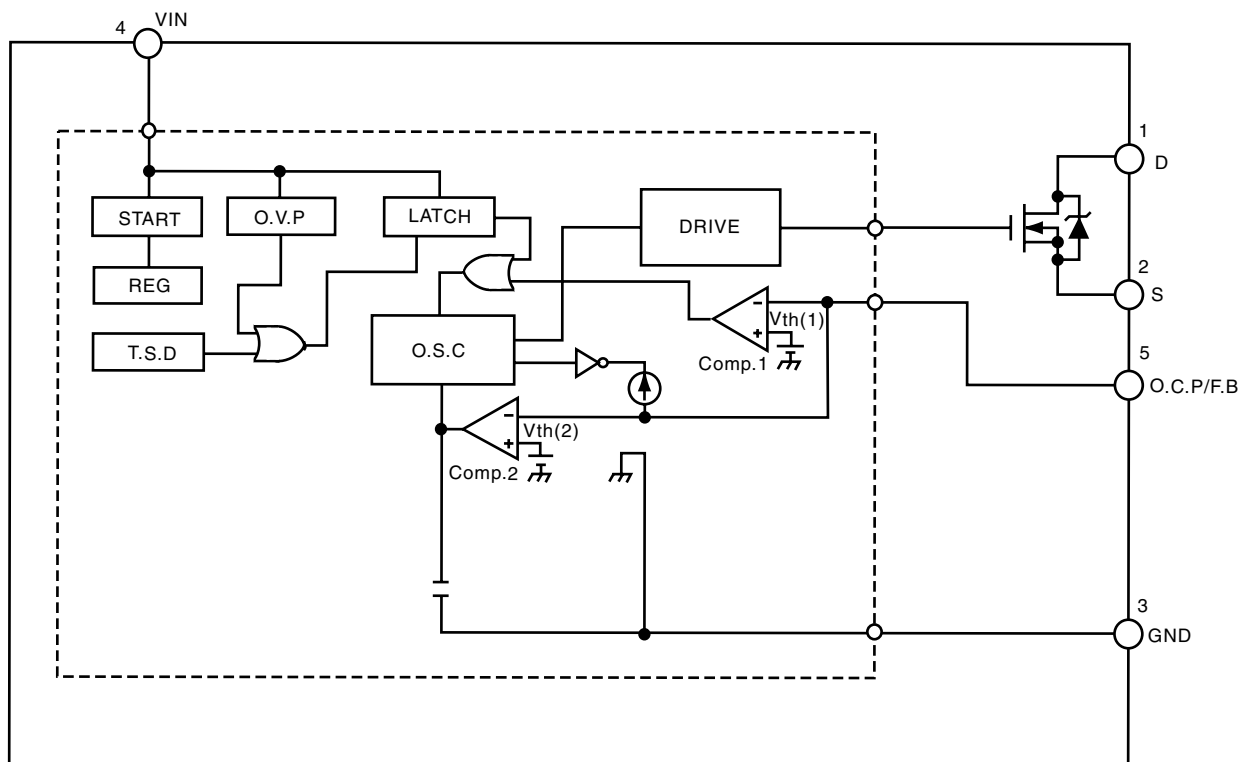
■ BA41W12ST-V5 (IC711) : Regulator

1. Block diagrams



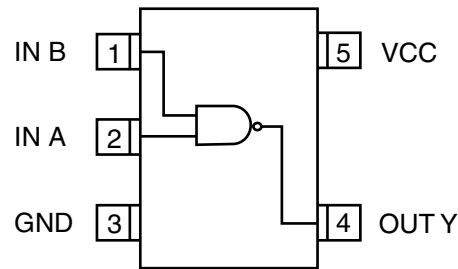
■ STR-G6651 (IC901) : Switch regulator

1. Block diagrams



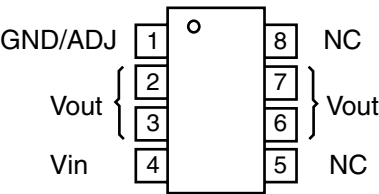
■ TC7SH08FU-X (IC311) : Timing control

1.Terminal layout



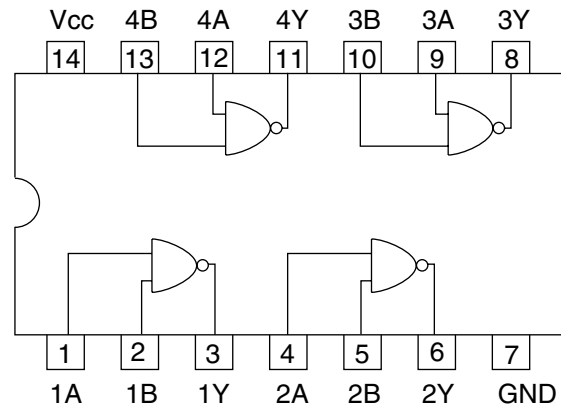
■ MC33269D (IC555) : Regulator

1.Terminal layout



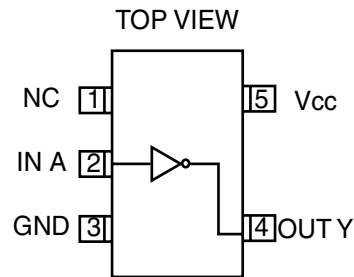
■ TC74VHC00FT-X (IC322,IC503) : Write timing control

1.Terminal layout / Block diagram



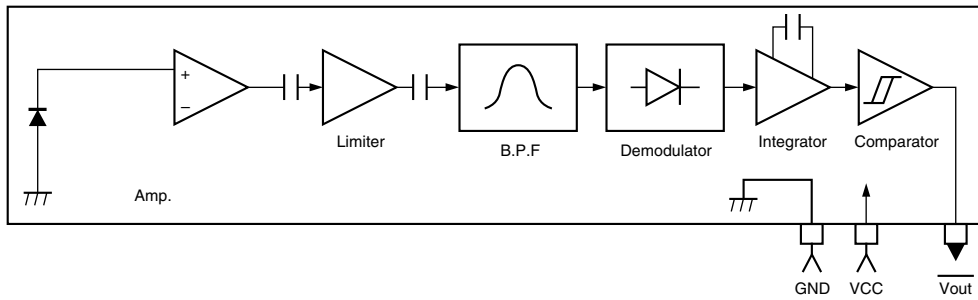
■ TC7SHU04FU-X (IC371,IC372) : Clock generator

1.Terminal layout



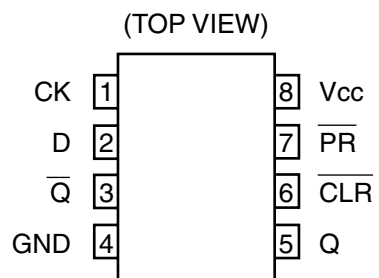
■ GP1U271X (IC801) : Receiver for remote controller

1. Block diagram

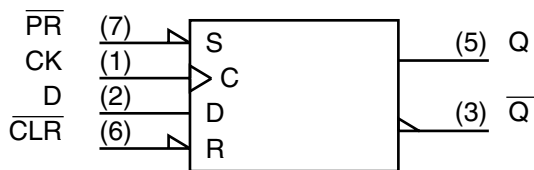


■ TC7WH74FU-X (IC321,IC374) : Clock buffer

1. Terminal layout

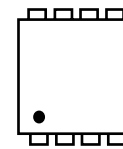


2. Block diagram

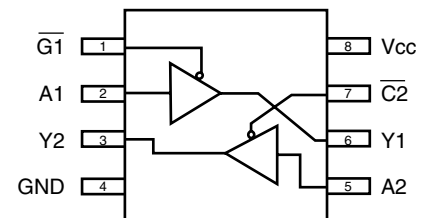


■ TC7W125FU-X (IC452) : Buffer

1. Terminal layout

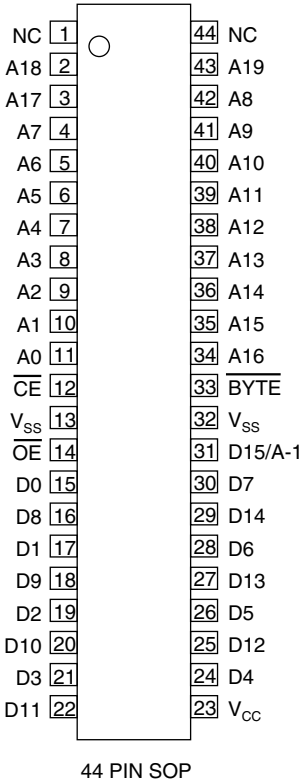


2. Block diagram



■ MSM531622F75G-X (IC402) : 1M x 16bit or 2M x 8bit ROM

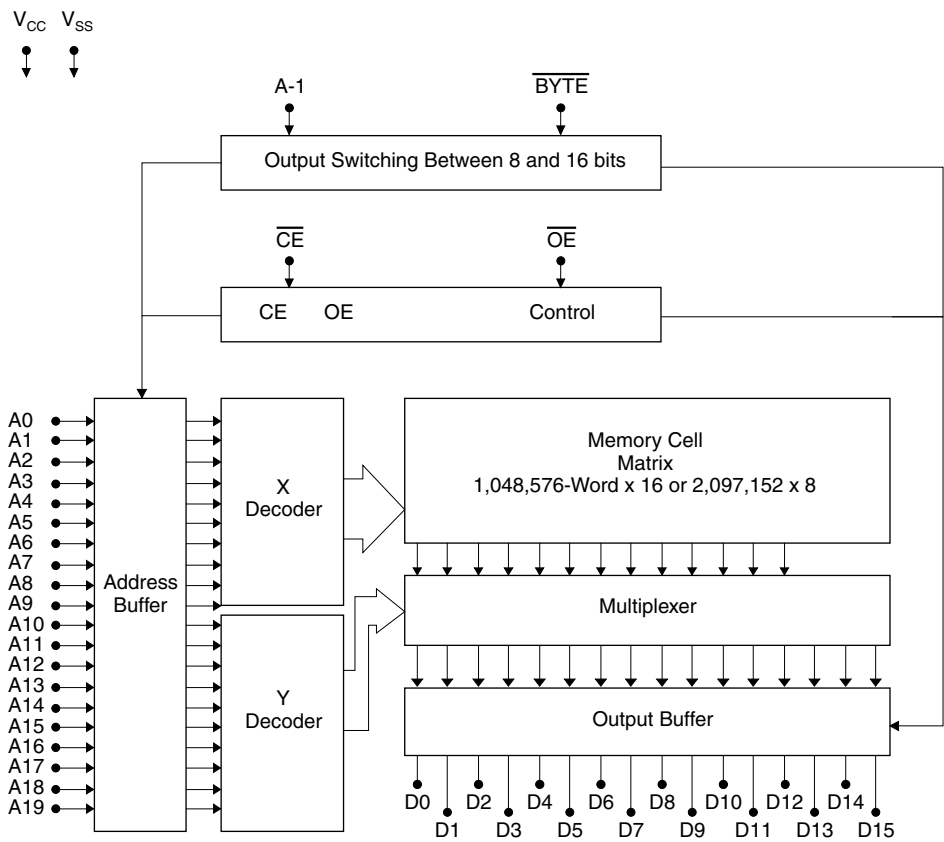
1.Terminal layout



3.Pin function

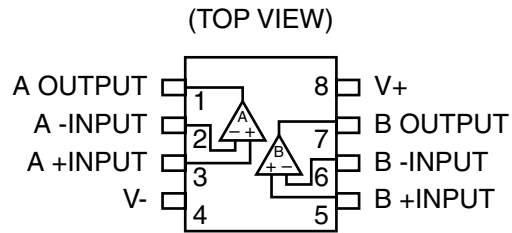
Pin Name	Function
D15/A-1	Data output / address input
A0 to A19	Address input
D0 to D15	Data output
$\overline{CE}$	Chip enable
$\overline{OE}$	Output enable
$\overline{BYTE}$	Mode switch
V_{CC}, V_{SS}	Power supply
NC	No Connect

2.Block diagram



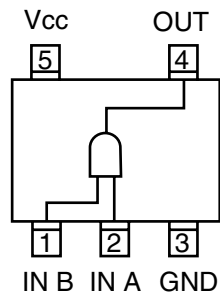
■ NJM4580M-X (IC741,IC751) : Dual Operational Amplifier

1.Terminal layout



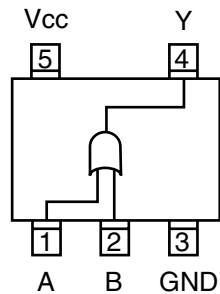
■ TC7S07F-W (IC704) : 2 Input Single AND Gate

1.Terminal layout



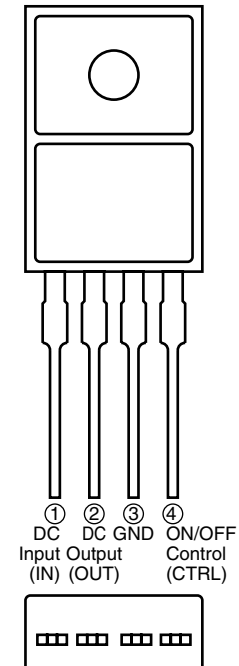
■ TC7SH32FU-X (IC312) : 2 Input Single OR Gate

1.Terminal layout



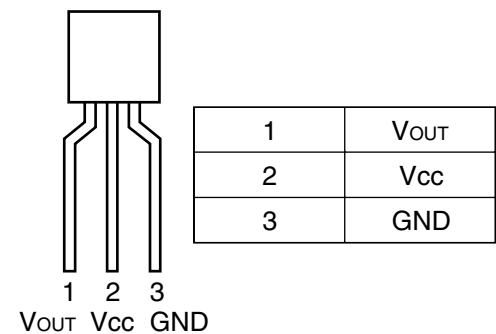
■ PQ05RD21 (IC951) : Regulator

1.Terminal layout



■ IC-PST9140-T (IC702) : SYSTEM RESET

1.Terminal layout



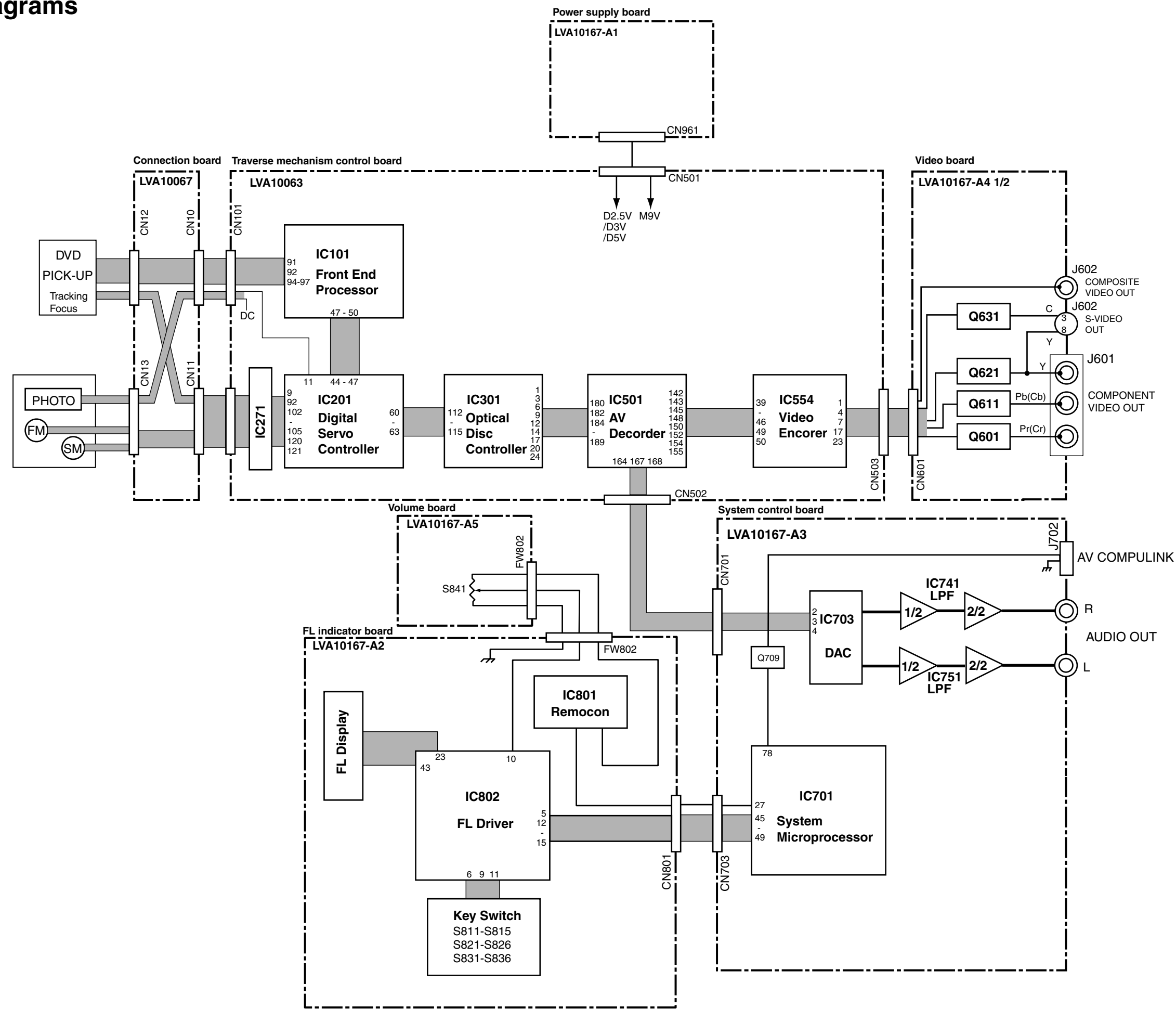


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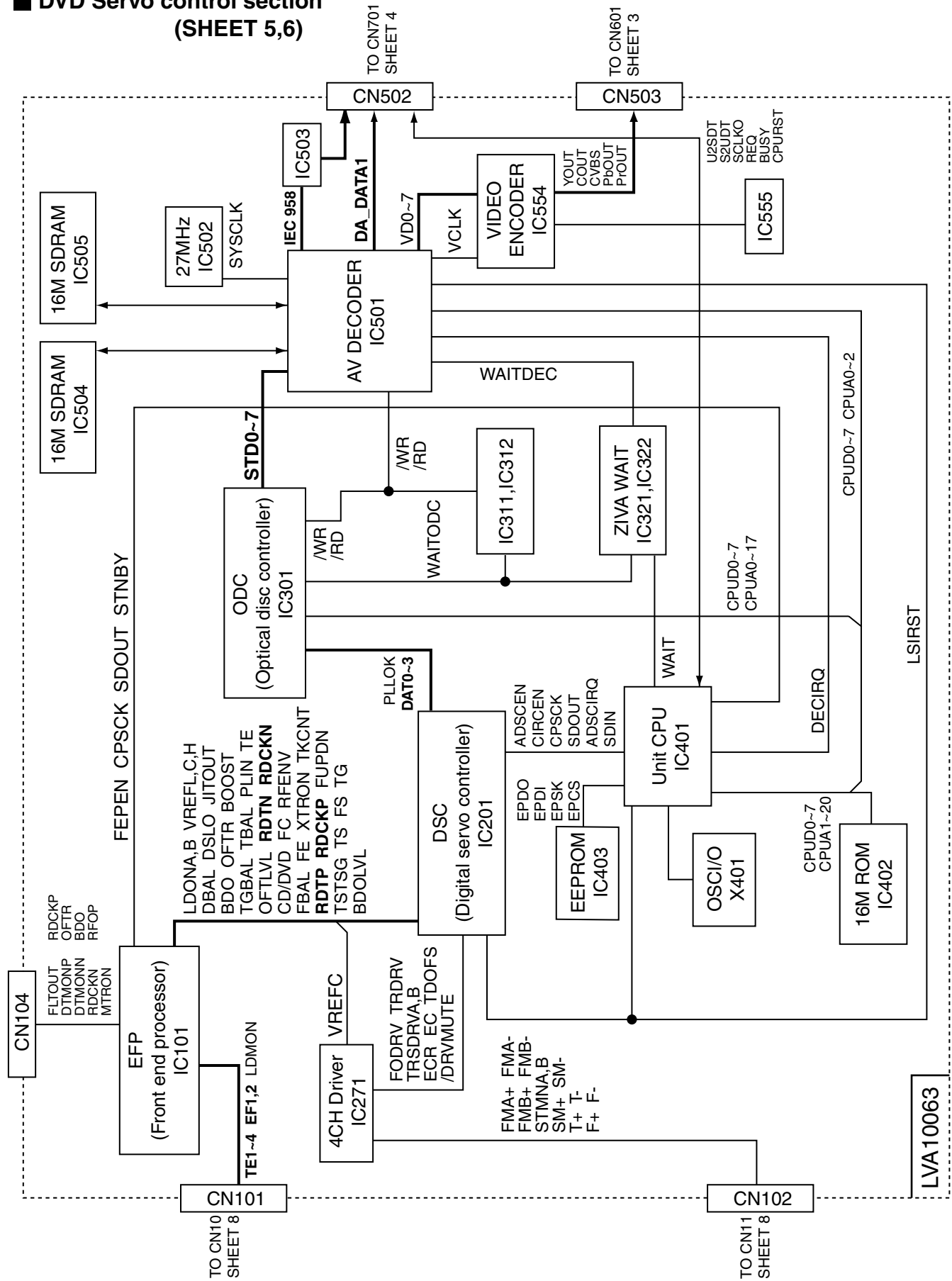
AUDIO & COMMUNICATION BUSINESS DIVISION

PERSONAL & MOBILE NETWORK B.U. 10-1, 1Chome, Ohwatari-machi, Maebashi-city, 371-8543, Japan

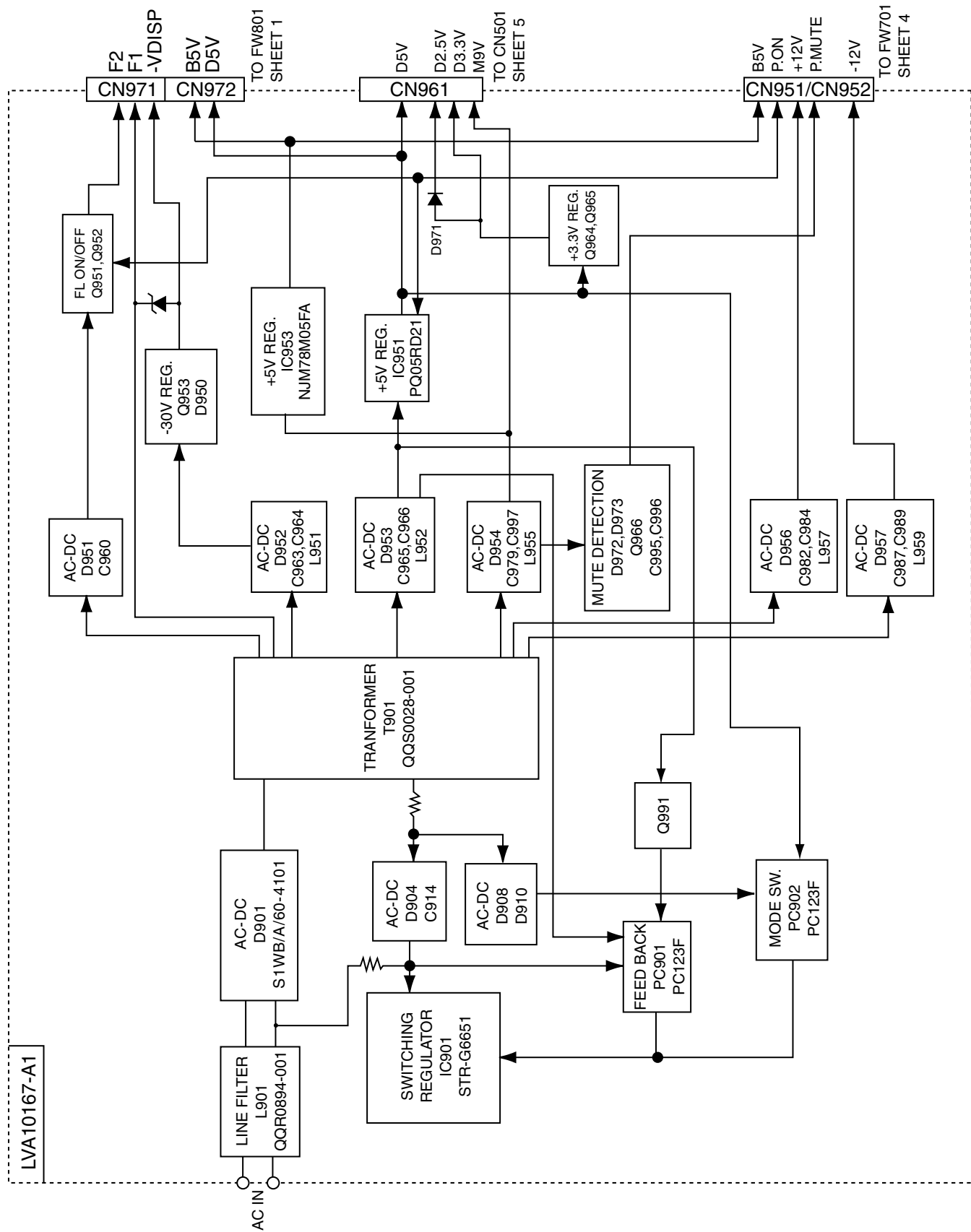
Block diagrams



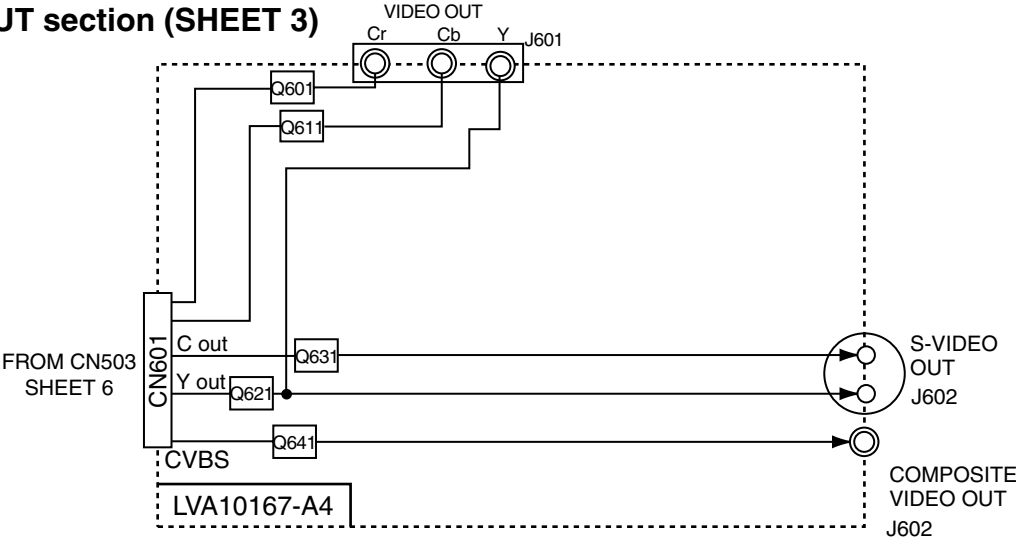
■ DVD Servo control section
(SHEET 5,6)



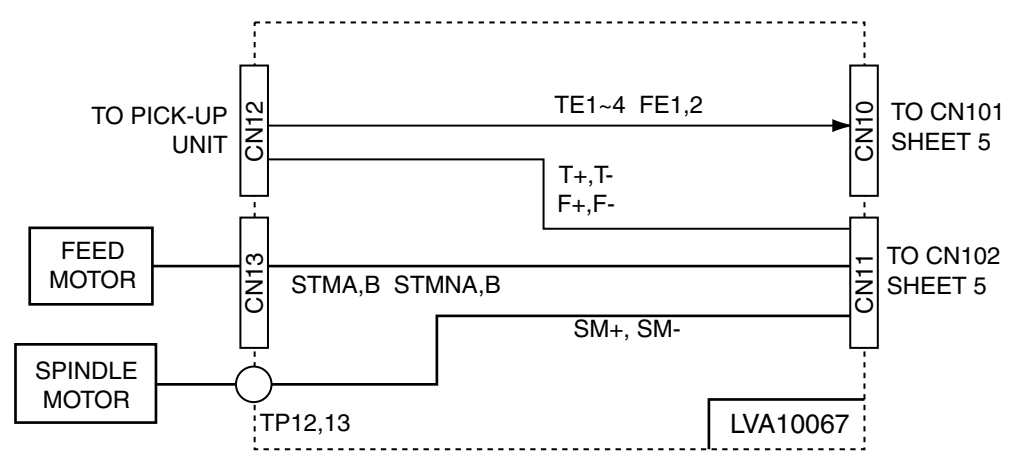
■ DC Regulator section (SHEET 2)



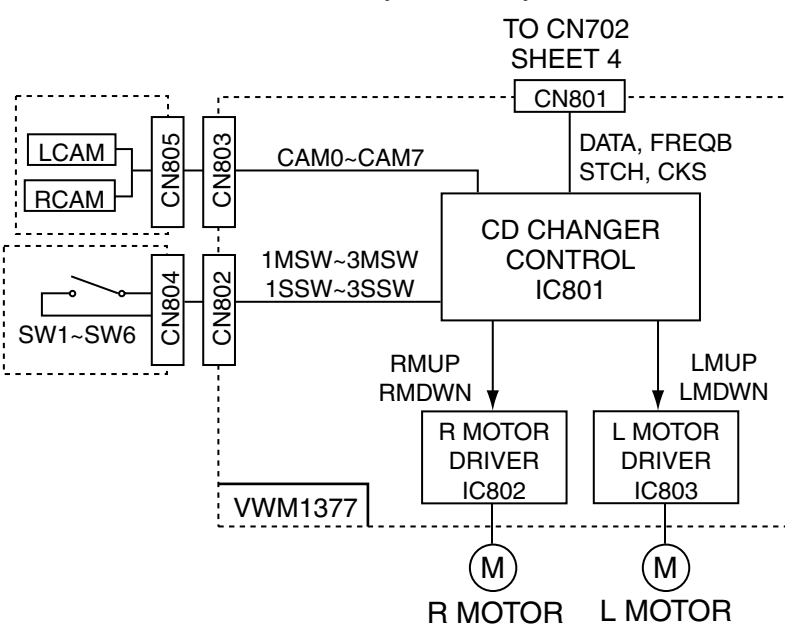
■ AV OUT section (SHEET 3)



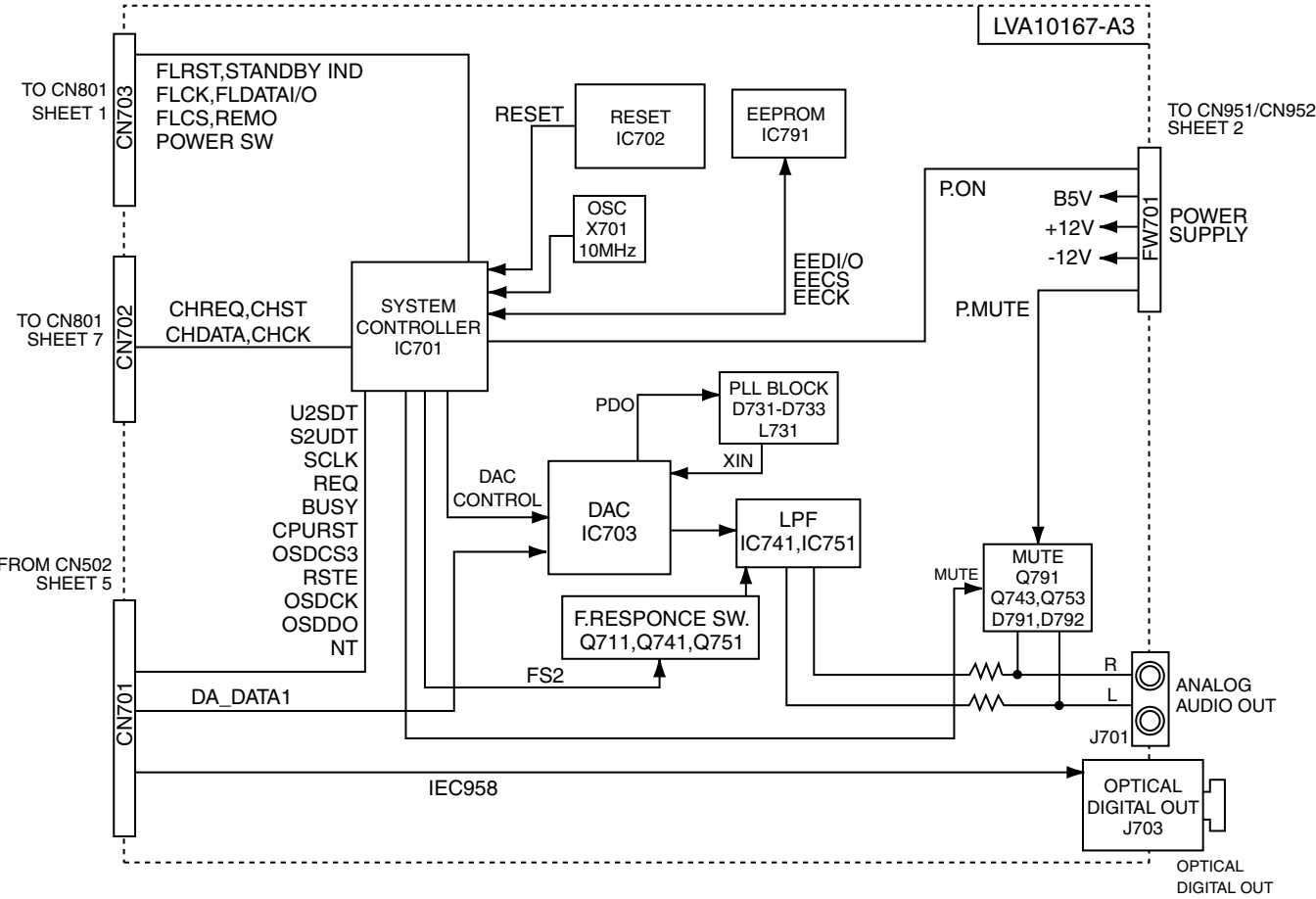
■ Connection to pick-up section (SHEET 8)



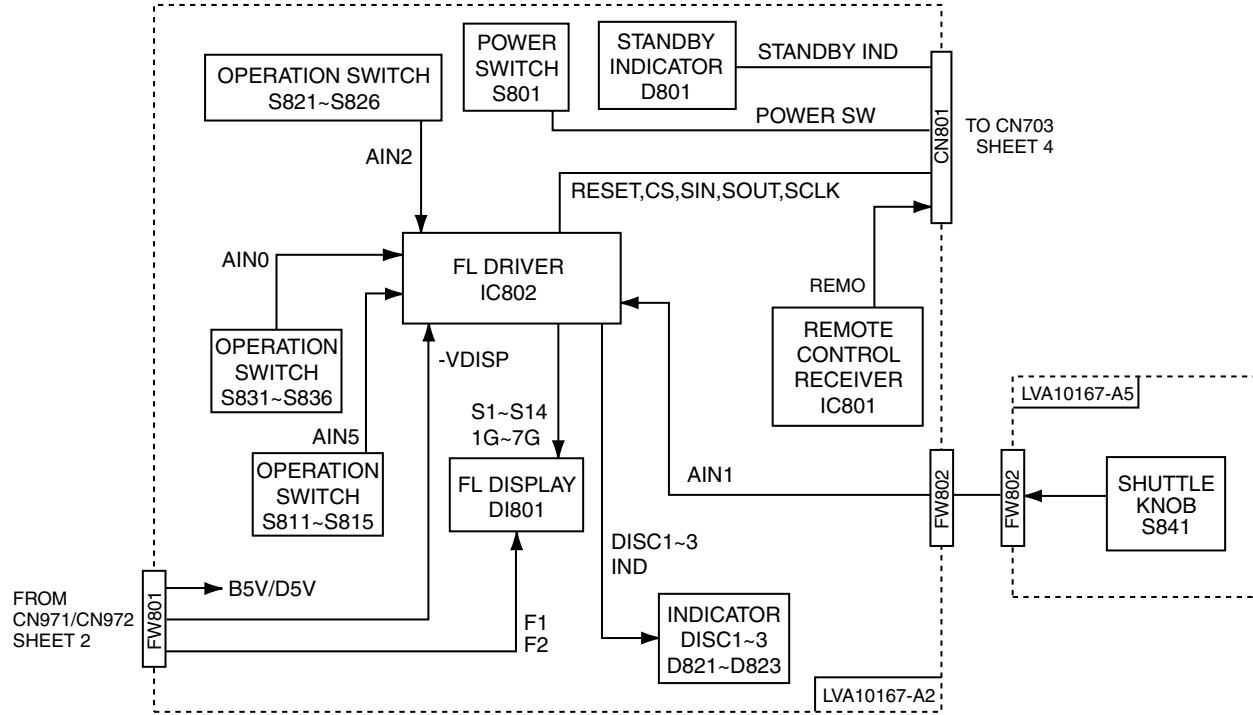
■ Changer mechanism control section (SHEET 7)



■ System control section (SHEET 4)



■ FL Driver section (SHEET 1)



Standard schematic diagrams

Mechanism control circuit

To B-3 on page 2-9

FROM CN702 OF
LVA10167-A3
(SHEET 4/9)

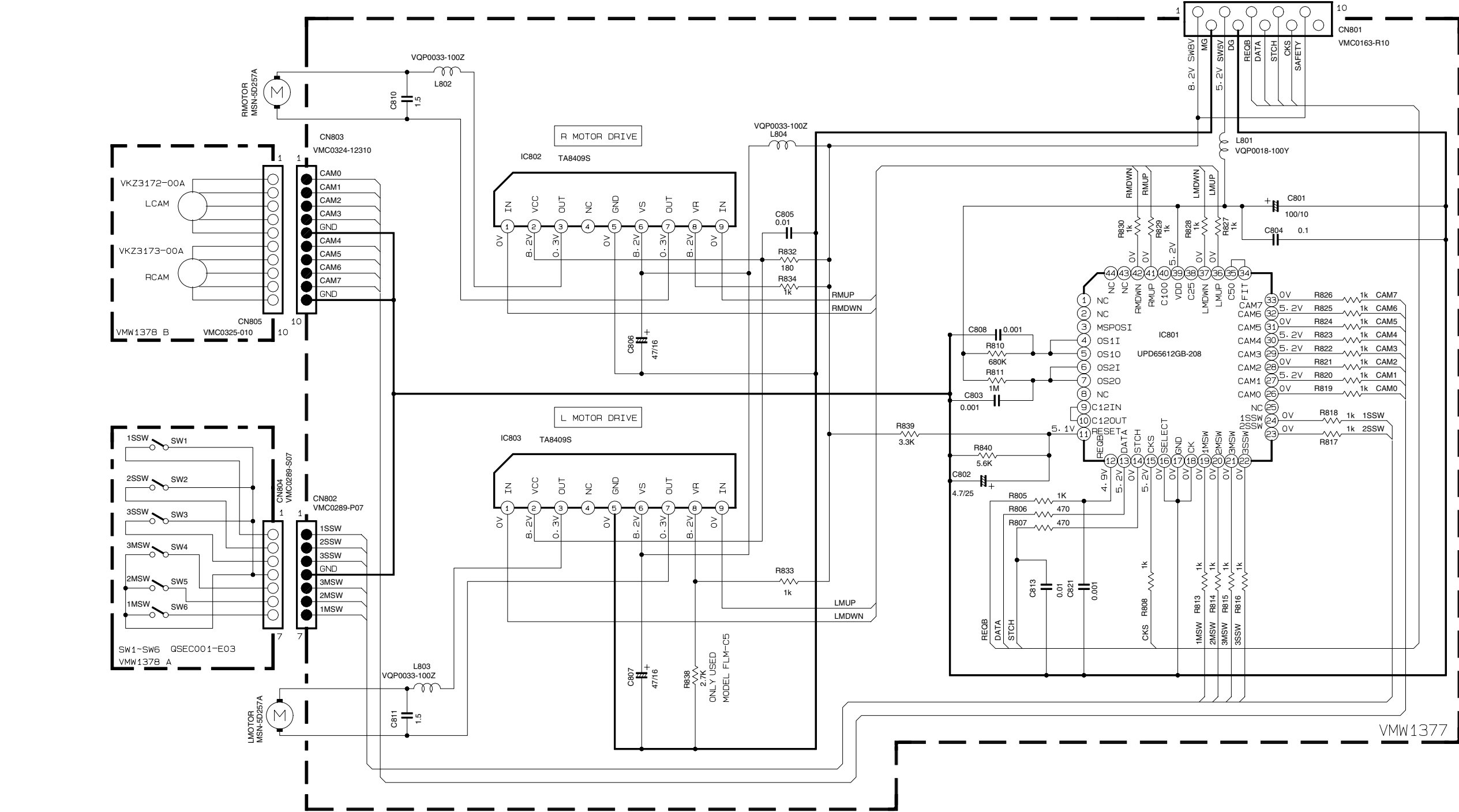


TABLE 1 CAM PATERN LIST

CAM NO.	LCAM	RCAM	POSITION
MAIN TRAY1	0 1 1 1 0	0 1 1 0	EMERGENCY
SUB TRAY1	0 0 1 1 0	0 1 1 0	TRAY1 STAND-BY
CAMR 1	0 1 0 1 0	0 1 1 0	TRAY1 CHACKING
MAIN TRAY2	1 0 0 1 0	0 1 0 1	TRAY2 STAND-BY
SUB TRAY2	1 1 1 0 0	0 1 1 1	TRAY2 CHACKING
CAMR 2	1 0 1 0 0	0 1 0 1	TRAY3 STAND-BY
MAIN TRAY3	1 1 1 0 0	0 0 1 1	TRAY3 CHACKING
SUB TRAY3	1 0 0 0 0		
OFF	1 1 1 1 0	0 1 1 1	OFF

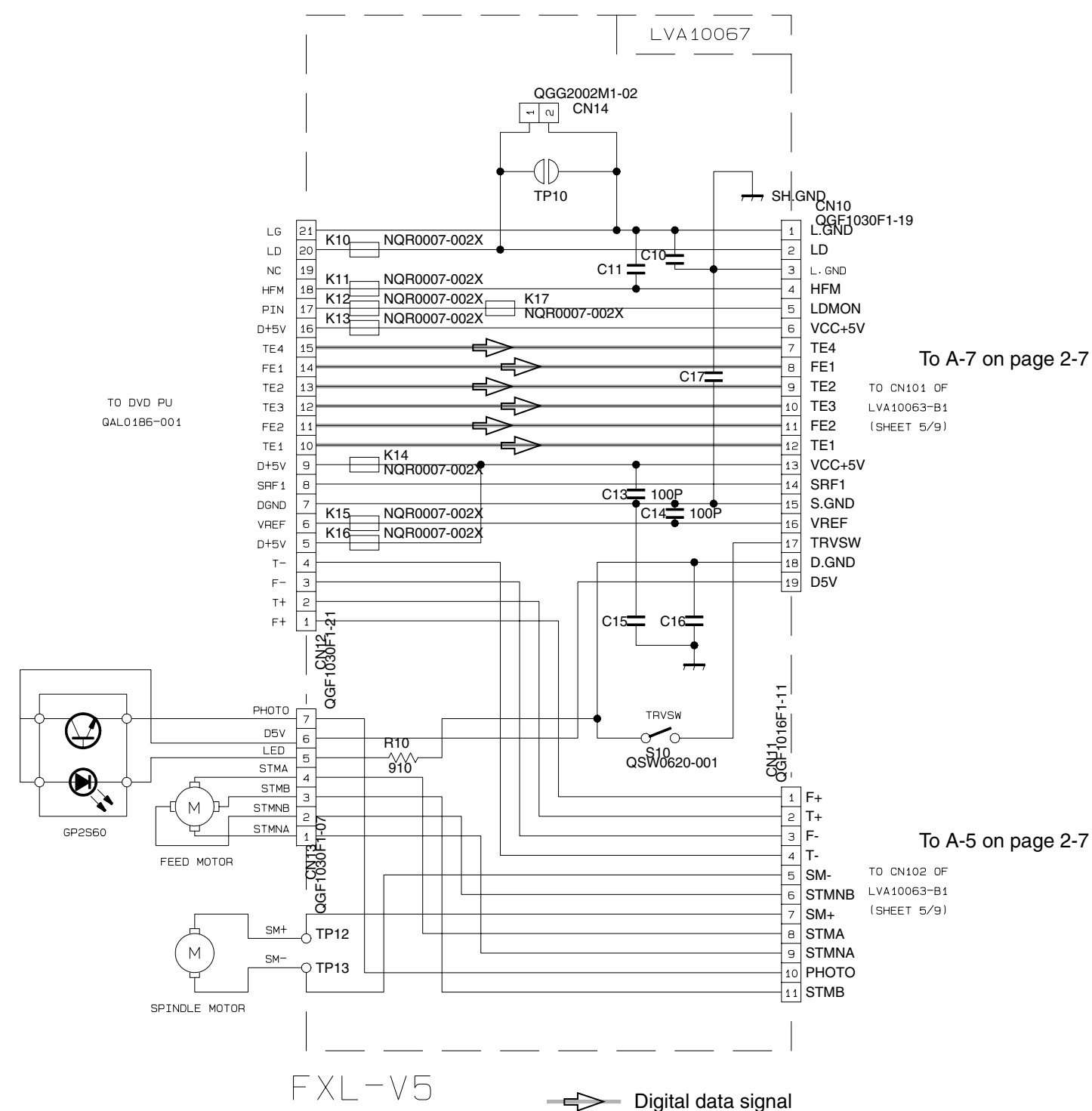
0=0V
1=5V

NOTES

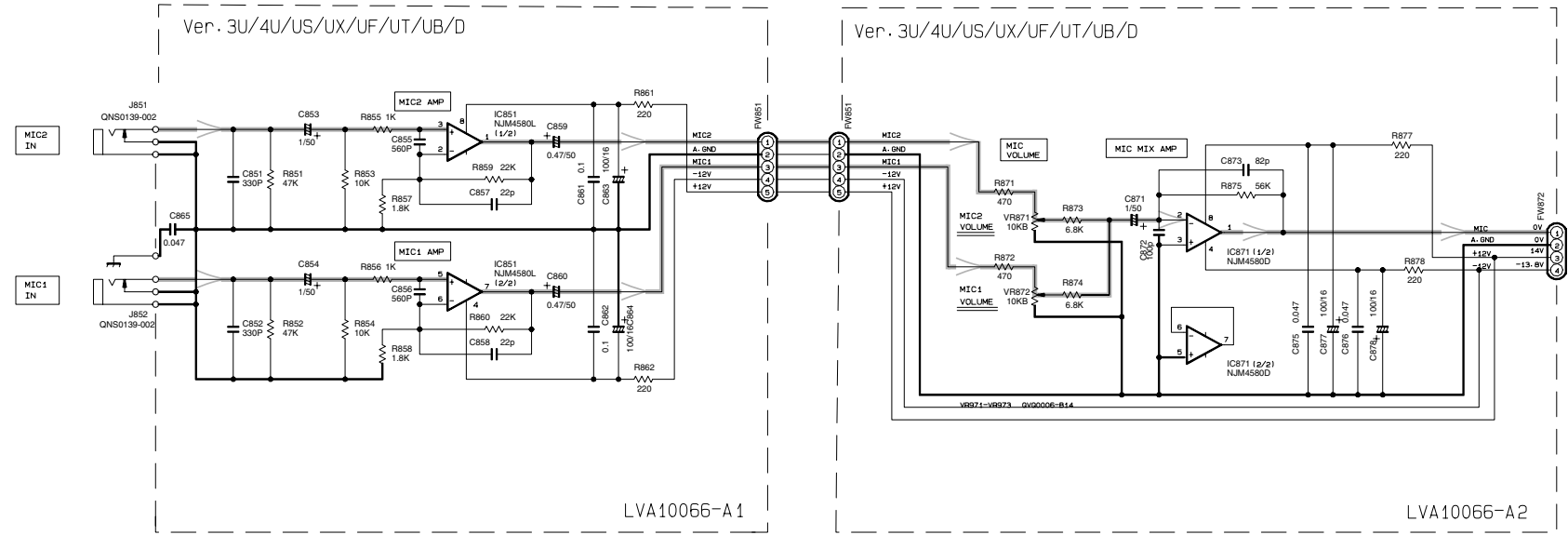
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL.
CONDITION --- DISC 1 CD STOP MODE
2. UNLESS OTHERWISE SPECIFIED, RESISTORS ARE 1/6W ±5% CARBON RESISTOR.
ALL RESISTANCE VALUES ARE IN OHM(Ω).
ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
ALL CAPACITANCE VALUES ARE IN μF(P=pF).
ALL INDUCTANCE VALUES ARE IN μH(m=mH).
ALL E. CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (μF)/RATED VOLTAGE (V).

- Ⓢ UNFLAMMABLE CARBON RESISTOR
Ⓜ METAL FILM RESISTOR
Ⓞ OXIDE METAL FILM RESISTOR
Ⓛ ±20% LOW LEAK CURRENT ELECTROLYTIC CAPACITOR
Ⓟ NON-POLARISED ELECTROLYTIC CAPACITOR
Ⓟ POLYPROPYLENE CAPACITOR
Ⓟ POLYSTYROL CAPACITOR

■ Connection circuit

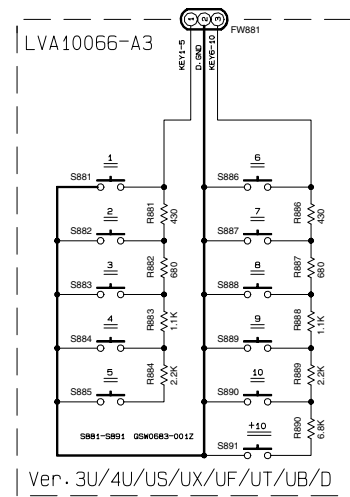
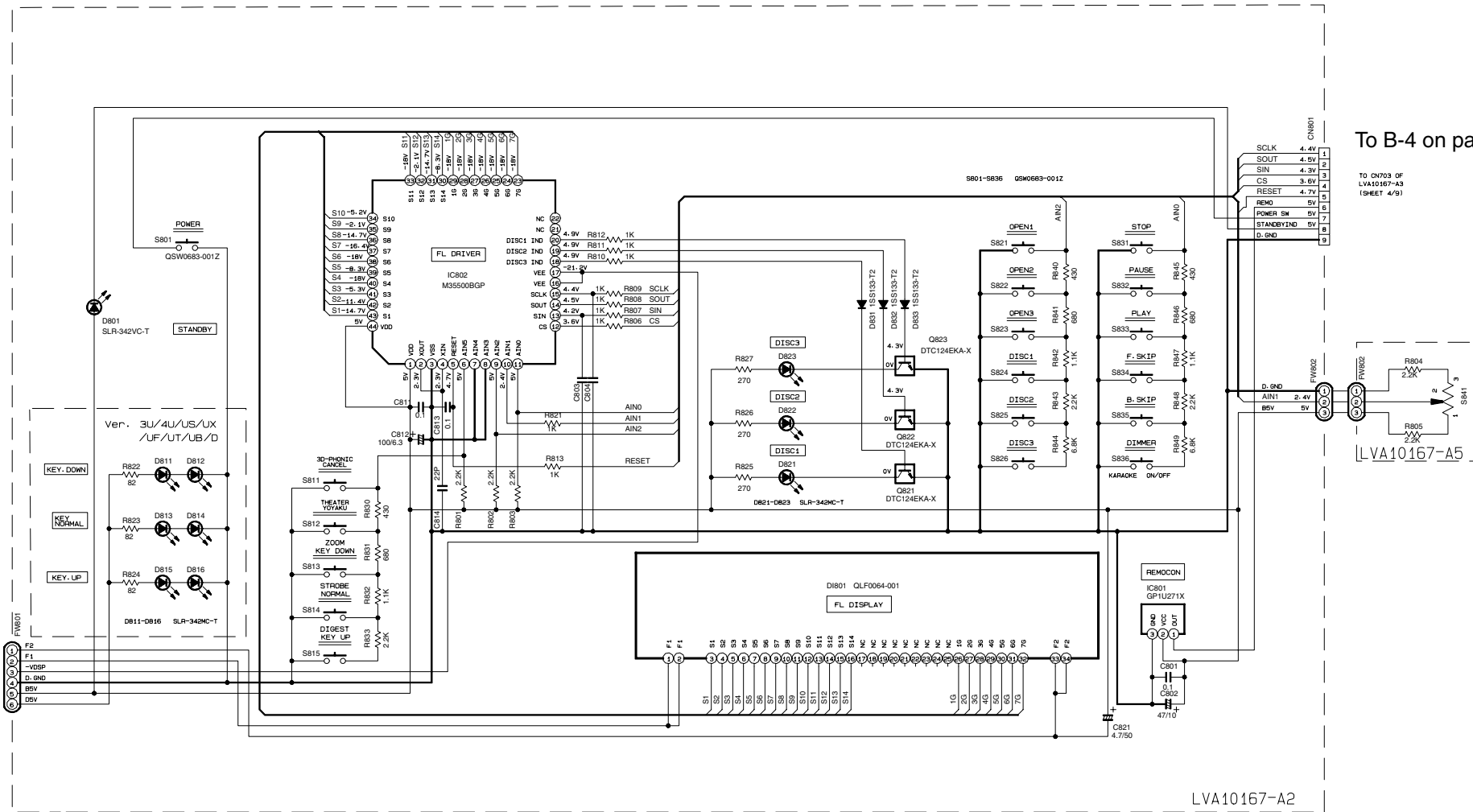


■ Front circuit



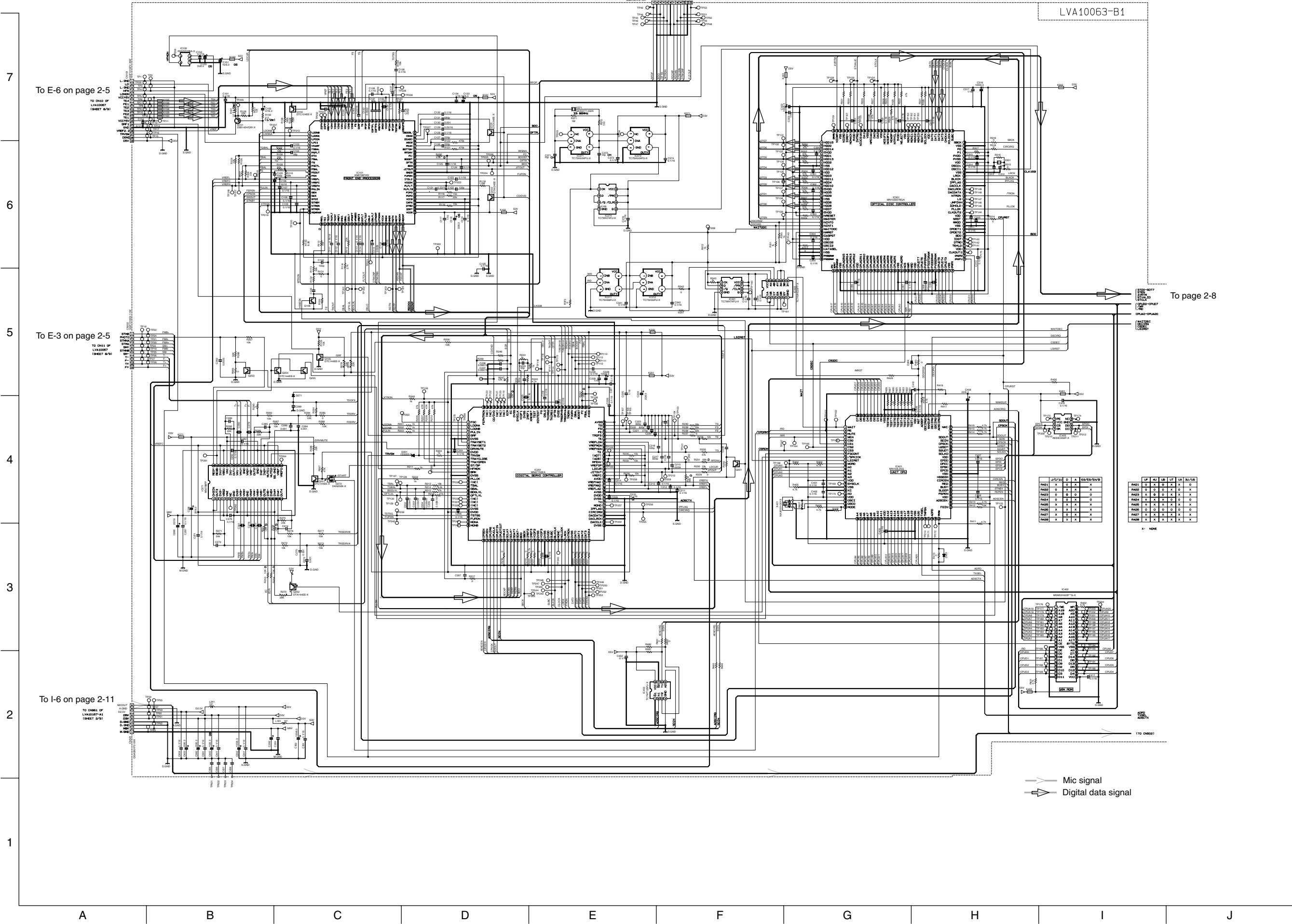
To I-3 on page 2-11

TO CN981 OF
LVA10167-A1
(SHEET 2/9)

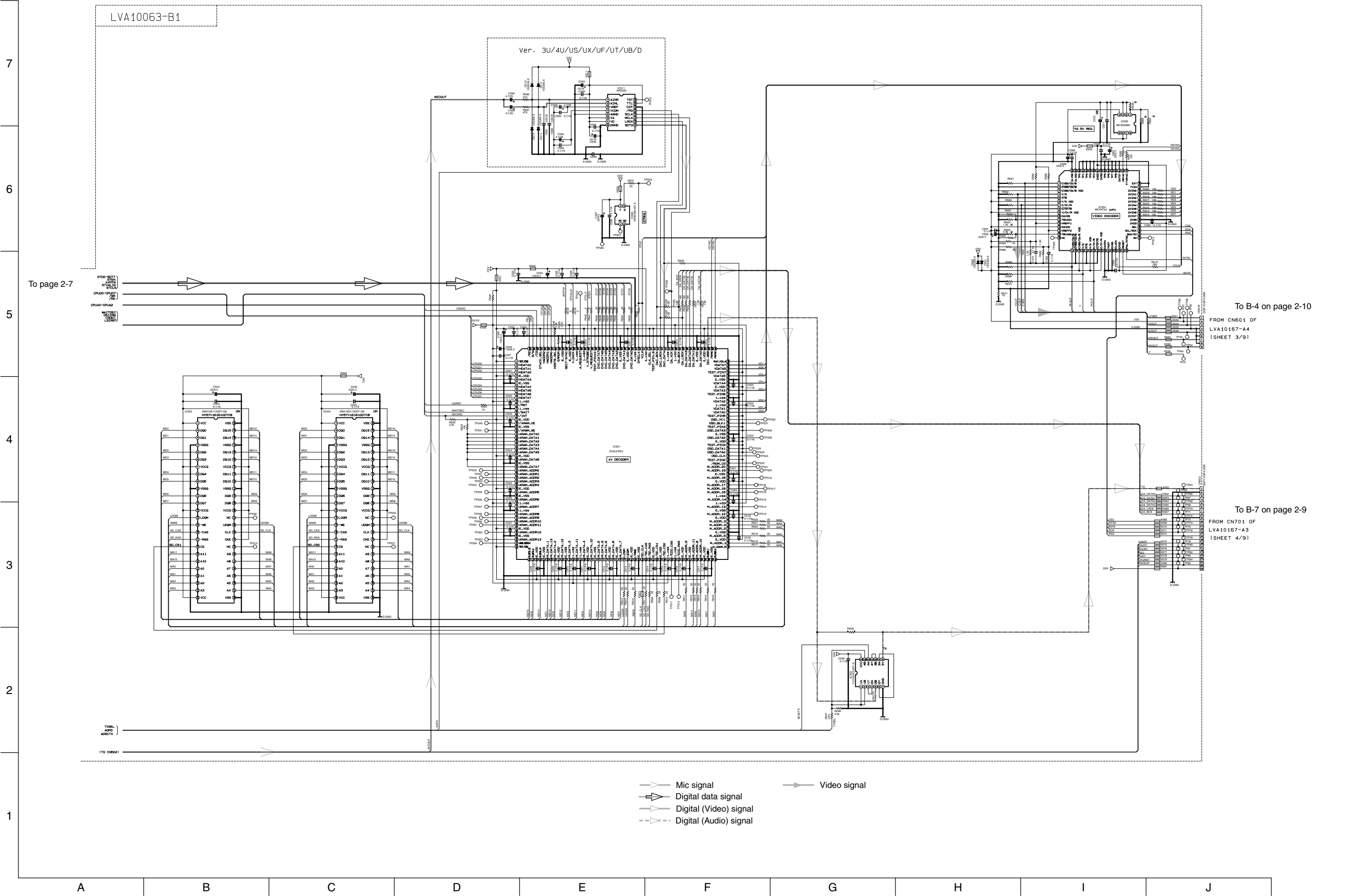


➡ Mic signal

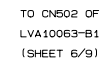
■ Traverse mechanism control circuit



M PEG circuit



■ System control circuit



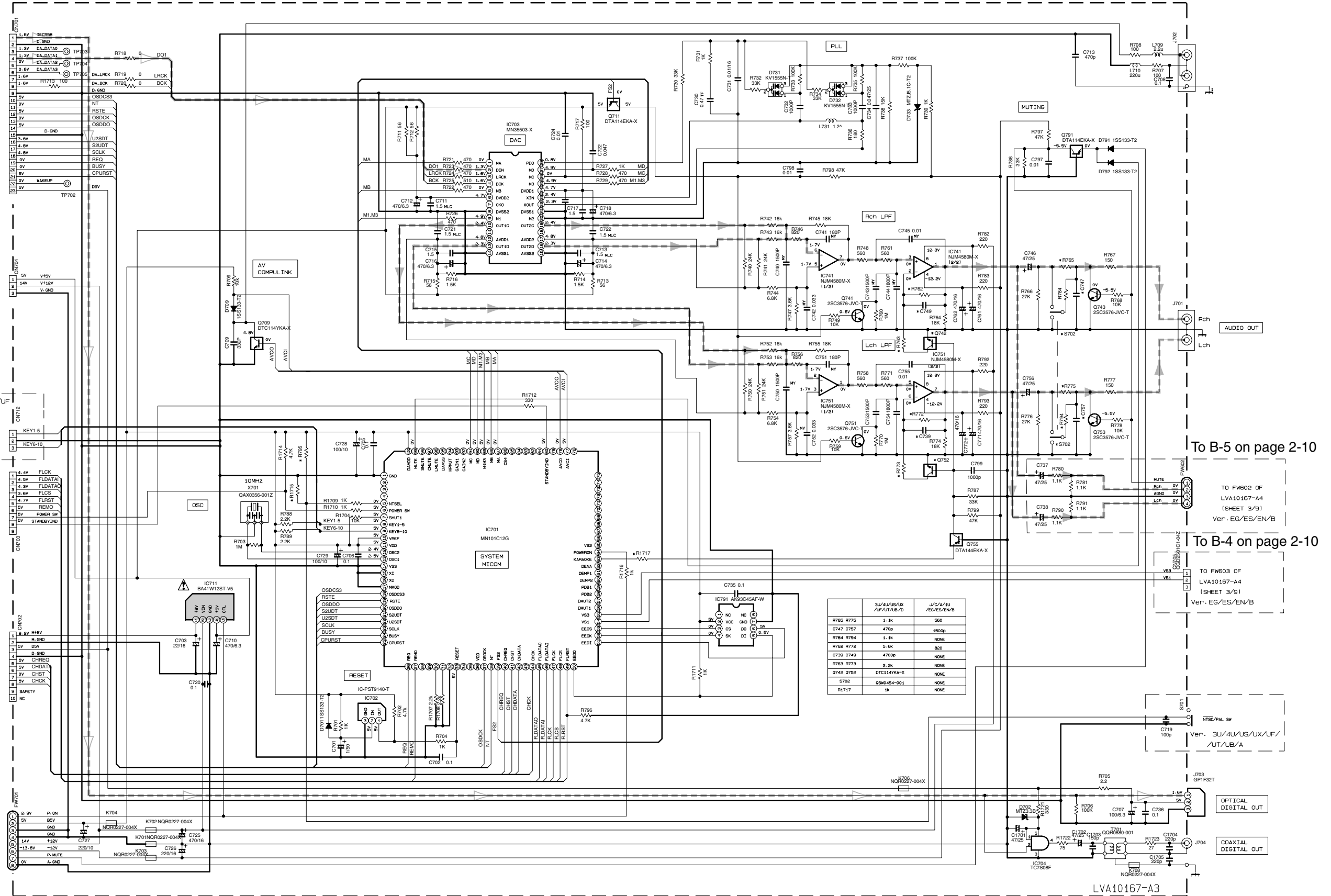
TO FW601 OF
LVA10167-A4
(SHEET 3/9)

Ver. 3U/4U/US/UX/UF
/UT/UB/D

TO CN801 OF
LVA10167-A2
(SHEET 1/9)

TO CN801 OF
VMW1377
(SHEET 7/9)

TO CN951 OF
LVA10167-A1
(SHEET 2/9)



REF. No.	Ver.	J/C/1U/D	EG/ES/EN/B	3U/4U/US/UX/UF/UT/UB/A
R1715		10k	NONE	NONE
R795		NONE	4.7K	4.7K

- ▷-- Digital (Audio) signal
- ▷-- Audio signal

 Parts are safety assurance parts. When replacing those parts make sure to use the specified one.

Ver. J/C

Ver. EG/ES/EN/B

230V 50Hz

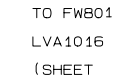
Ver. 1U/3U/4U/US
/UX/UF/UT/UB

Ver. A

240V 50Hz

Ver. D

100V 50/60Hz



To A-2 on page 2-7

TO CN501
LVA10063
(SHEET 5

To H-6 on page 2-6

TO FW872
LVA10066-
(SHEET 1/

To B-1 on page 2-9

TO FW701 0
LVA10167-A
(SHEET 4/9

VERSION CODES

J:U: S: A:
C: CANADA
D: JAPAN
EG: GERMANY/FRANCE/HOLLAND
S: SWITZERLAND/ITALY
EN: SWEDEN/NORWAY/FINLAND/DENMARK
B: GREAT BRITAIN
A: AUSTRALIA
3U: MALAYSIA/PHILIPPINES
4U: BRAZIL/MEXICO/PERU
US: SINGAPOLE
UX: SAUDI ARABIA
UF: CHAINA
UT: TAIWAN
UB: HONG KONG
1U: US MILITARY BASE

REF	Ver	J/C	E6/ES/EN/B	3U/4U/US/UX /UF/UT/UB	1U	D	A
F901		QMF51U1-1R6~JB 1-6A-125V	QMF51E2-1R6~J1 T1-6A-250V	QMF51E2-1R6~J1 T1-6A-250V	QMF51E2-1R6~J1 T1-6A-250V	QMF51U1-1R6~JB 1-6A-125V	QMF51E2-RB0-J1 T800A-250V
CN981		NONE	NONE	GGD501C1-04Z	NONE	GGD501C1-04Z	NONE
K951 K952 K953		NONE	NONE	QGR0601-001Z	NONE	QGR0601-001Z	NONE
C907		150/200	82/400	120/400	120/400	150/200	82/400
R963		100	0	0	0	100	0
R962		1M	NONE	NONE	NONE	1M	NONE
D991		MTZJ5, 1C-T2	MTZJ5, 1A-T2	MTZJ5, 1A-T2	MTZJ5, 1A-T2	MTZJ5, 1C-T2	MTZJ5, 1A-T2
K902		QGR0601-001Z	0	0	0	QGR0601-001Z	0
C913		220p/1k	100p/1k	100p/1k	100p/1k	220p/1k	100p/1k
H5901		NONE	E70306-002	E70306-002	E70306-002	NONE	E70306-002
PC901, PC902		PC123F	PC123FY	PC123F	PC123F	PC123F	PC123F
C932		NONE	NONE	100p	NONE	NONE	NONE
K954		0	0	QGR0601-001Z	0	0	0

 Parts are safety assurance parts. When replacing those parts make sure to use the specified one.

 Mic signal

■ Voltage value section

IC101			
NO	DC(V)	NO	DC(V)
1	0V	51	3.2V
2	0V	52	1.3V
3	4.4V	53	4.9V
4	0V	54	0V
5	1.6V	55	4.9V
6	1.6V	56	0.5V
7	1.8V	57	1.2V
8	2.1V	58	2.2V
9	1.6V	59	2.2V
10	1.4V	60	2.2V
11	0.8V	61	1.5V
12	1.4V	62	1.6V
13	1.4V	63	0V
14	1.4V	64	1.4V
15	0.6V	65	0.2V
16	1.4V	66	0.2V
17	2.1V	67	1.5V
18	4.6V	68	1.4V
19	5.0V	69	1.3V
20	4.9V	70	2.2V
21	4.9V	71	2.1V
22	4.9V	72	1.0V
23	3.2V	73	2.2V
24	4.9V	74	2.9V
25	0V	75	4.4V
26	1.2V	76	3.4V
27	1.4V	77	1.1V
28	1.4V	78	2.1V
29	1.4V	79	2.1V
30	0V	80	2.1V
31	2.1V	81	4.9V
32	0V	82	0V
33	1.4V	83	2.1V
34	1.2V	84	3.3V
35	1.5V	85	3.3V
36	1.6V	86	2.0V
37	1.5V	87	2.1V
38	2.1V	88	1.4V
39	3.0V	89	2.2V
40	3.8V	90	1.4V
41	2.1V	91	2.0V
42	2.3V	92	2.1V
43	2.3V	93	4.9V
44	4.9V	94	2.1V
45	0V	95	2.1V
46	0V	96	2.1V
47	1.6V	97	2.1V
48	1.6V	98	2.1V
49	1.6V	99	2.1V
50	1.6V	100	2.1V

IC102	
NO	DC(V)
1	0V
2	5.0V
3	0V
4	0V
5	0V

IC201			
NO	DC(V)	NO	DC(V)
1	3.2V	51	0V
2	0V	52	3.2V
3	0V	53	3.2V
4	0V	54	0V
5	0V	55	1.5V
6	0V	56	0V
7	3.2V	57	3.2V
8	3.2V	58	3.2V
9	3.2V	59	0V
10	3.2V	60	1.4V
11	3.2V	61	1.6V
12	4.2V	62	1.6V
13	3.2V	63	1.6V
14	3.2V	64	1.5V
15	0V	65	0V
16	3.2V	66	0V
17	0V	67	0V
18	0V	68	0V
19	1.6V	69	3.2V
20	1.6V	70	0V
21	1.6V	71	1.4V
22	2.0V	72	3.2V
23	1.6V	73	0V
24	1.6V	74	3.2V
25	1.6V	75	0V
26	1.6V	76	0.6V
27	0V	77	1.4V
28	3.2V	78	2.1V
29	0V	79	3.2V
30	1.6V	80	1.4V
31	—	81	1.5V
32	—	82	1.8V
33	5.0V	83	1.4V
34	5.0V	84	1.4V
35	3.2V	85	1.4V
36	5.0V	86	1.4V
37	5.0V	87	1.4V
38	0V	88	2.1V
39	0V	89	1.4V
40	1.6V	90	0.6V
41	1.6V	91	1.4V
42	1.6V	92	1.4V
43	1.6V	93	1.4V
44	0.2V	94	1.4V
45	0V	95	1.4V
46	0V	96	0V
47	3.2V	97	3.2V
48	0V	98	1.4V
49	0V	99	1.7V
50	0V	100	1.6V

IC271	
NO	DC(V)
1	0V
2	0V
3	0V
4	9V
5	9V
6	0V
7	0V
8	1.37V
9	3.2V
10	3.4V
11	0V
12	3.4V
13	4.5V
14	5.7V
15	3V
16	0V
17	0V
18	0V
19	0V
20	1.37V
21	0V
22	1.37V
23	1.37V
24	0V
25	0V
26	3.18V
27	1.37V
28	0V
29	1.41V
30	2.37V
31	2.56V
32	0V
33	5.0V
34	2.56V
35	1.34V
36	1.37V
37	4.93V
38	0V
39	0V
40	1.37V
41	3.2V
42	3V

IC301			
NO	DC(V)	NO	DC(V)
1	5.0V	51	3.7V
2	0V	52	3.6V
3	5.0V	53	4.1V
4	5.0V	54	1.2V
5	0V	55	3.5V
6	5.0V	56	0V
7	5.0V	57	0.4V
8	0V	58	5.0V
9	5.0V	59	5.0V
10	3.2V	60	4.6V
11	5.0V	61	3.2V
12	5.0V	62	3.7V
13	5.0V	63	3.5V
14	5.0V	64	4.0V
15	5.0V	65	0V
16	5.0V	66	3.2V
17	5.0V	67	0V
18	0V	68	1.9V
19	0V	69	1.8V
20	5.0V	70	1.4V
21	0V	71	0V
22	5.0V	72	2.0V
23	5.0V	73	1.1V
24	0V	74	0.9V
25	5.0V	75	1.6V
26	5.0V	76	3.2V
27	5.0V	77	0V
28	0V	78	3.2V
29	0V	79	0V
30	3.2V	80	0.2V
31	3.2V	81	0V
32	0V	82	0V
33	0V	83	0V
34	0V	84	0V
35	0V	85	4.9V
36	3.2V	86	3.2V
37	0.1V	87	0V
38	0.1V	88	0V
39	0V	89	0V
40	4.5V	90	0V
41	4.6V	91	0V
42	4.7V	92	3.2V
43	1.5V	93	0V
44	3.2V	94	3.2V
45	3.9V	95	0V
46	4.0V	96	3.2V
47	0.7V	97	0V
48	3.8V	98	3.2V
49	1.1V	99	0V
50	4.5V	100	1.6V

IC311	
NO	DC(V)
1	5.0V
2	4.6V
3	0V
4	4.7V
5	5.0V

IC371	
NO	DC(V)
1	0V
2	1.5V
3	0V
4	1.4V
5	3.2V

IC312	
NO	DC(V)
1	5.0V
2	4.7V
3	0V
4	5.0V
5	5.0V

IC372	
NO	DC(V)
1	0V
2	1.4V
3	0V
4	1.6V
5	3.2V

IC381	
NO	DC(V)
1	5.0V
2	5.0V
3	5.0V
4	0V
5	0V
6	0V
7	5.0V
8	5.0V

IC374	
NO	DC(V)
1	1.6V
2	1.5V
3	1.6V
4	0V
5	1.6V
6	3.2V
7	3.2V
8	3.2V

IC382	
NO	DC(V)
1	5.0V
2	5.0V
3	0V
4	0V
5	0V
6	5.0V
7	0V
8	5.0V
9	0V
10	0V
11	0V
12	5.0V
13	5.0V
14	5.0V

IC401			
NO	DC(V)	NO	DC(V)
1	5.0V	51	0.6V
2	5.0V	52	5.0V
3	5.0V	53	5.0V
4	5.0V	54	5.0V
5	0V	55	5.0V
6	5.0V	56	5.0V
7	5.0V	57	0V
8	4.4V	58	0V
9	0V	59	5.0V
10	0V	60	0V
11	4.9V	61	0V
12	5.0V	62	0V
13	0V	63	0V
14	0V	64	0V
15	2.1V	65	0V
16	1.9V	66	5.0V
17	5.0V	67	4.8V
18	2.3V	68	3.8V
19	0V	69	4.8V
20	0V	70	5.0V
21	5.0V	71	0V
22	5.0V	72	5.0V
23	2.4V	73	5.0V
24	2.4V	74	5.0V
25	5.0V	75	5.0V
26	2.7V	76	5.0V
27	1.8V	77	5.0V
28	2.1V	78	3.1V
29	1.7V	79	0V
30	3.5V	80	5.0V
31	3.5V	81	5.0V
32	2.1V	82	4.9V
33	2V	83	5.0V
34	5.0V	84	5.0V
35	2.6V	85	0V
36	4.3V	86	0V
37	4V	87	0V
38	0V	88	5.0V
39	5V	89	5.0V
40	0V	90	5.0V
41	0V	91	5.0V
42	0V	92	0V
43	0V	93	1.1V
44	0V	94	1.5V
45	0V	95	0V
46	0V	96	0V
47	0V	97	2.3V
48	5V	98	2.3V
49	0V	99	2.3V
50	5.0V	100	2.4V

IC402	
NO	DC(V)
1	4.9V
2	0V
3	0V
4	3.5V
5	1.7V
6	2.1V
7	1.8V
8	2.7V
9	1.9V
10	2.1V
11	0V
12	4.6V
13	0V
14	4.2V
15	1.1V
16	0V
17	1.5V
18	0V
19	0V
20	0V
21	0V
22	0V
23	5V
24	2.3V
25	0V
26	2.3V
27	0V
28	2.3V
29	0V
30	2.4V
31	0V
32	0V
33	0V
34	0V
35	5V
36	0V
37	4V
38	4.3V
39	2.6V
40	2V
41	2.1V
42	3.5V
43	0V
44	0V

IC403	
NO	DC(V)
1	4.9V
2	5.0V
3	0V
4	0V
5	0V
6	1.0V
7	0V
8	0V

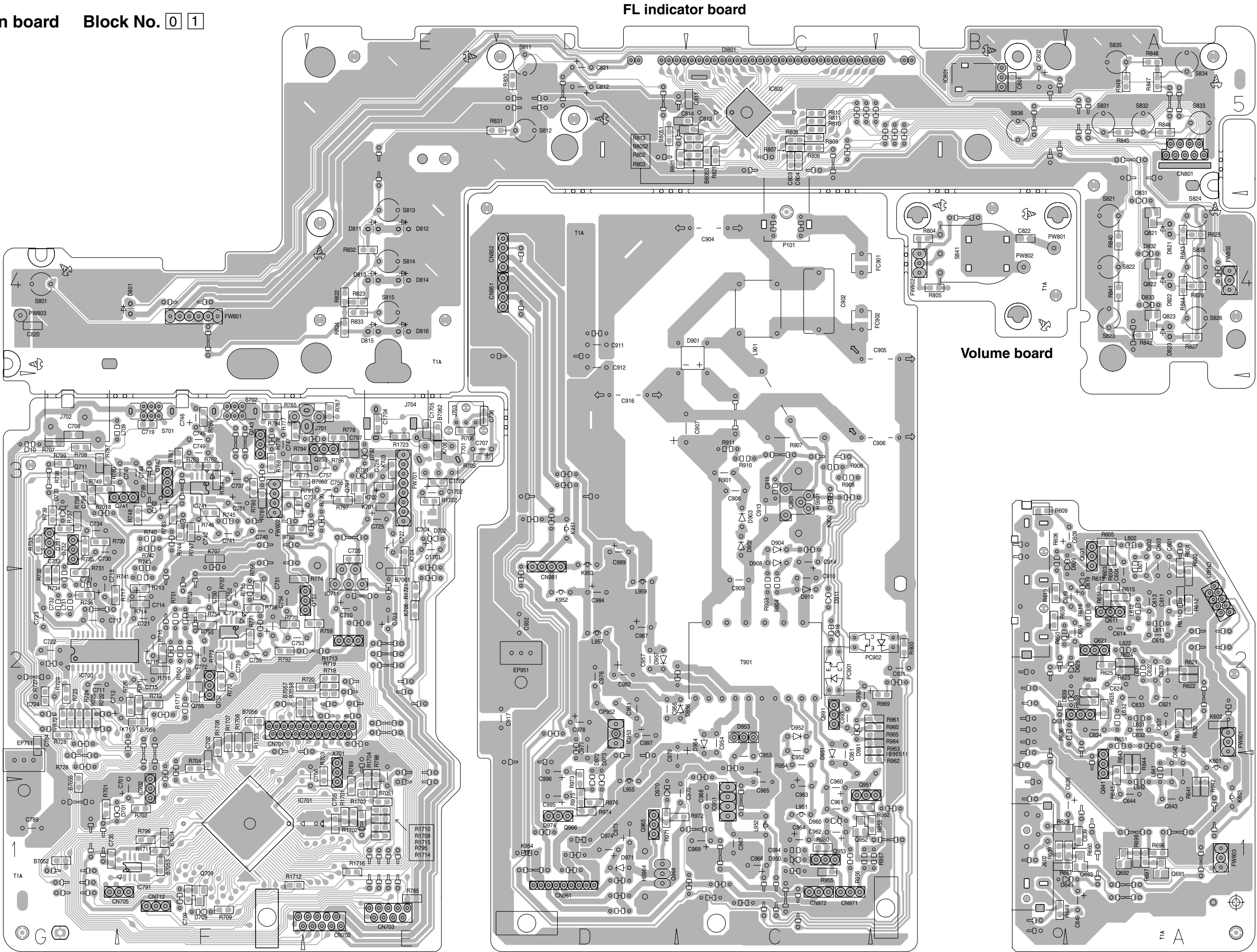
IC452	
NO	DC(V)
1	0V
2	3.2V
3	0V
4	0V
5	0V
6	5.0V
7	0V
8	5.0V

IC501					
NO	DC(V)	NO	DC(V)	NO	DC(V)
1	3.1 V	53	0.7 V	105	0V
2	1.7 V	54	0.7 V	106	0V
3	0.7 V	55	3.1 V	107	3.1 V
4	2.0 V	56	0.6 V	108	0.6 V
5	3.1 V	57	0V	109	0V
6	1.6 V	58	0.6 V	110	0V
7	0V	59	0.5 V	111	0V
8	0V	60	0.5 V	112	0V
9	2.4 V	61	3.1 V	113	3.1 V
10	2.9 V	62	0.6 V	114	0V
11	2.6 V	63	0V	115	0V
12	2.5 V	64	0.6 V	116	0V
13	5.0 V	65	2.5 V	117	2.5 V
14	0V	66	0.7 V	118	0V
15	5.0 V	67	0V	119	0V
16	3.1 V	68	0.7 V	120	0V
17	3.1 V	69	3.1 V	121	0V
18	3.1 V	70	0.6 V	122	0V
19	0V	71	0V	123	3.1 V
20	3.1 V	72	0.7 V	124	0V
21	3.1 V	73	0.7 V	125	0V
22	3.1 V	74	0.6 V	126	0V
23	3.1 V	75	3.1 V	127	0V
24	3.1 V	76	0.7 V	128	0.6 V
25	3.1 V	77	0V	129	3.1 V
26	3.1 V	78	0.6 V	130	3.1 V
27	3.1 V	79	3.2 V	131	3.1 V
28	3.1 V	80	3.2 V	132	3.1 V
29	0V	81	3.1 V	133	3.1 V
30	3.1 V	82	3.2 V	134	3.1 V
31	0V	83	0V	135	3.1 V
32	0V	84	0V	136	0V
33	0V	85	3.1 V	137	3.1 V
34	0V	86	3.1 V	138	3.1 V
35	3.1 V	87	3.1 V	139	3.1 V
36	3.1 V	88	0V	140	0.6 V
37	0V	89	0V	141	0.6 V
38	0V	90	3.1 V	142	0.9 V
39	0V	91	2.5 V	143	0.9 V
40	2.5 V	92	3.1 V	144	0.9 V
41	3.1 V	93	0V	145	0.9 V
42	0V	94	3.1 V	146	0V
43	3.1 V	95	3.1 V	147	3.1 V
44	0V	96	0V	148	0.9 V
45	3.1 V	97	0V	149	3.1 V
46	3.1 V	98	0V	150	2.2 V
47	0V	99	0V	151	0V
48	3.1 V	100	0V	152	0.9 V
49	0V	101	3.1 V	153	3.1 V
50	3.1 V	102	0V	154	0.9 V
51	0V	103	0V	155	0.9 V
52	3.1 V	104	0V	156	3.1 V

Printed circuit boards

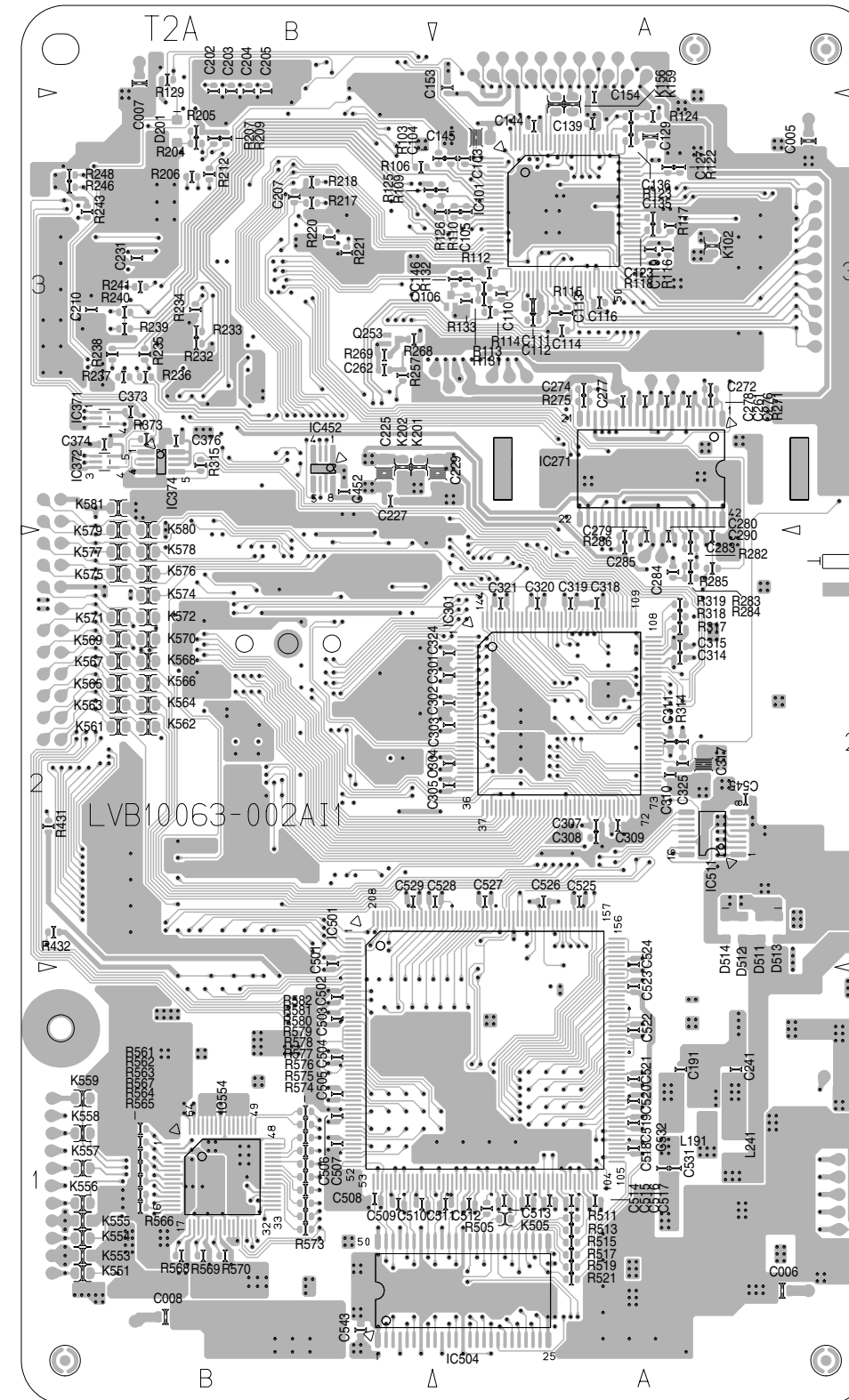
■ Main board Block No.

0	1
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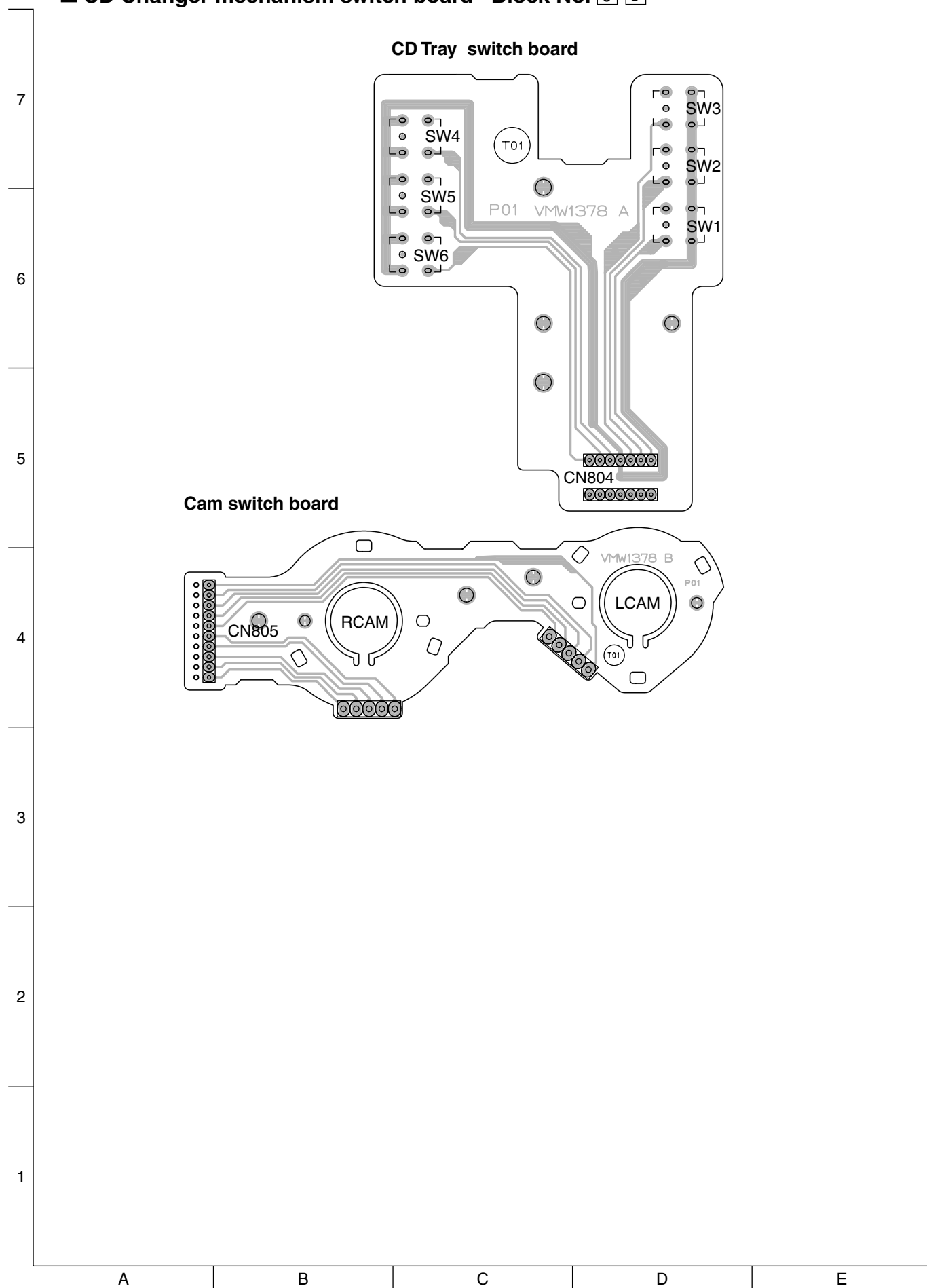


A B C D E F G H I J

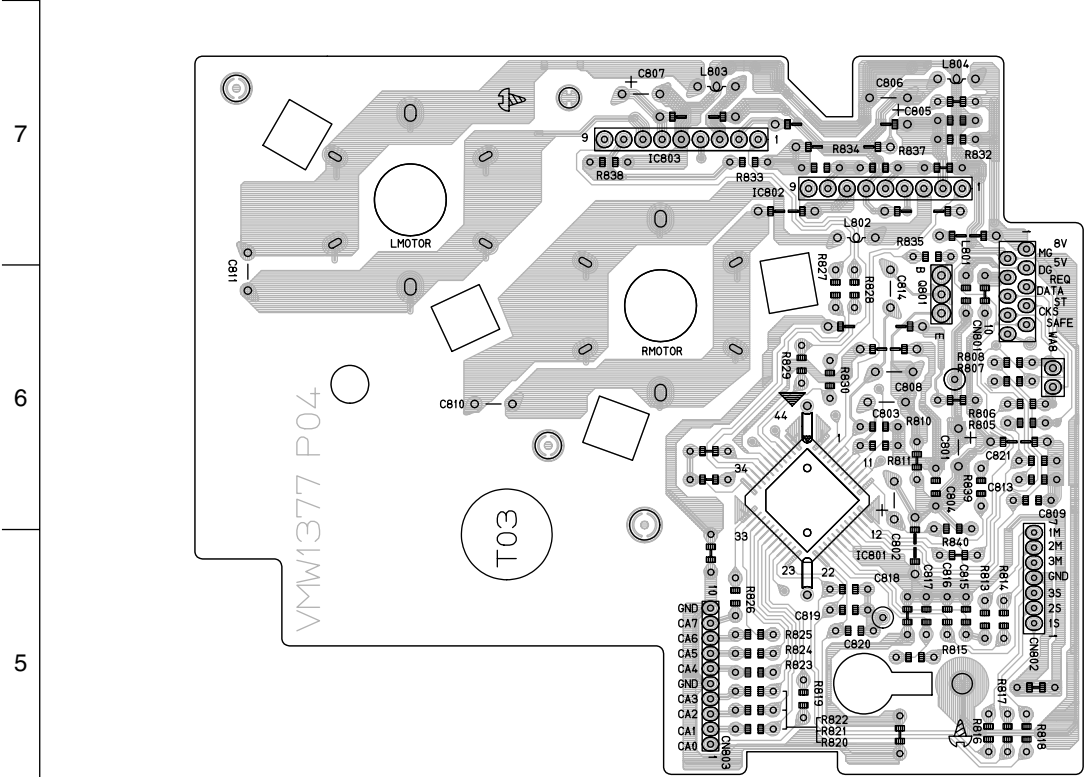
Bottom side view



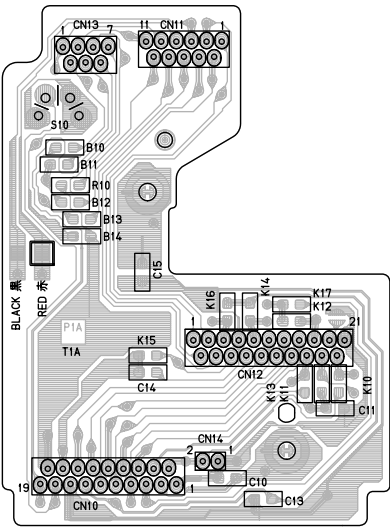
■ CD Changer mechanism switch board Block No. 0 3



■ Mechanism control board Block No. 0 4



■ Connection board Block No. 0 5



PARTS LIST

[XV-M565BK/M567GD]

* All printed circuit boards and its assemblies are not available as service parts.

Areas suffix

J ----- U.S.A.
C ----- Canada

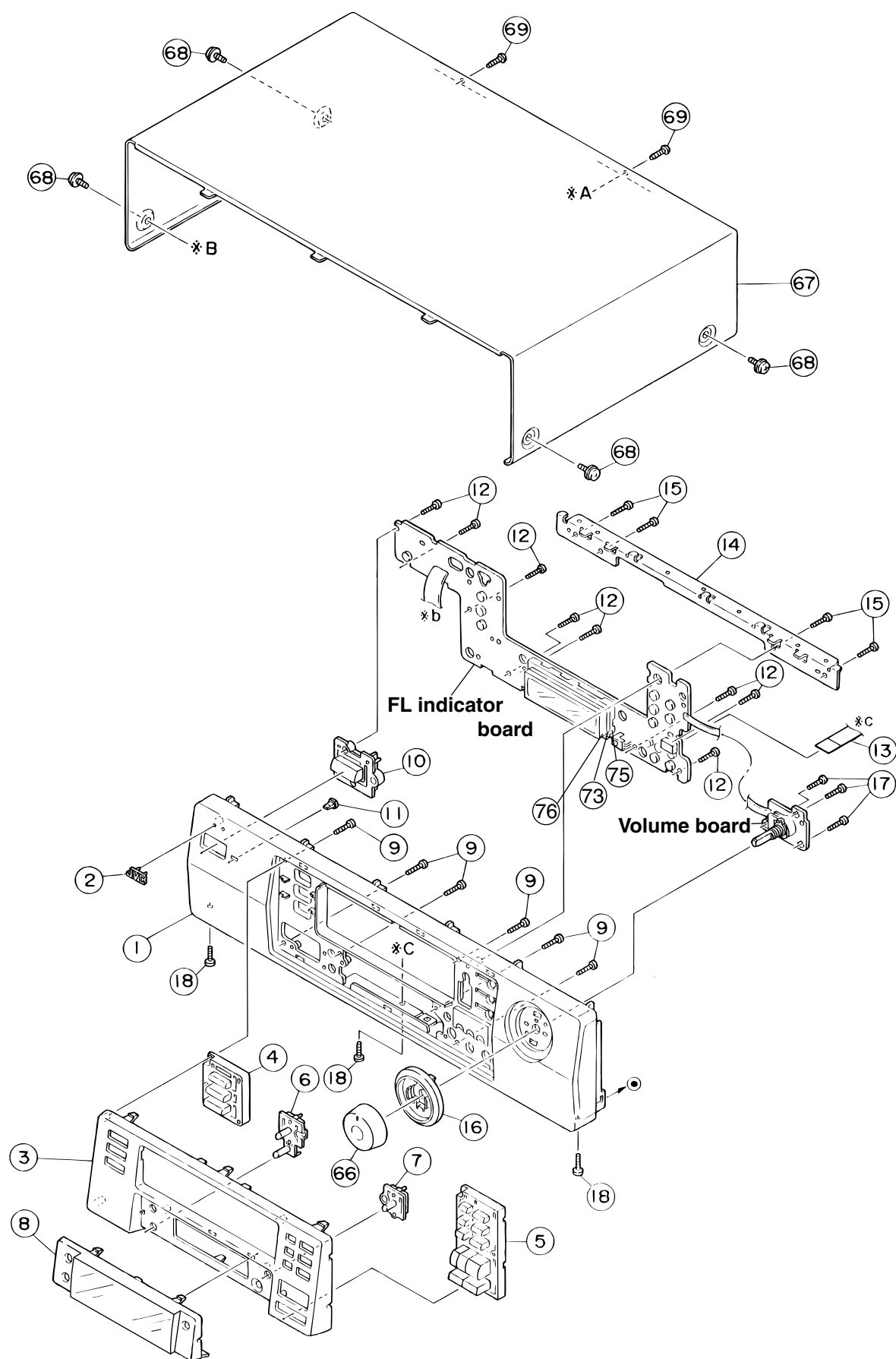
- Contents -

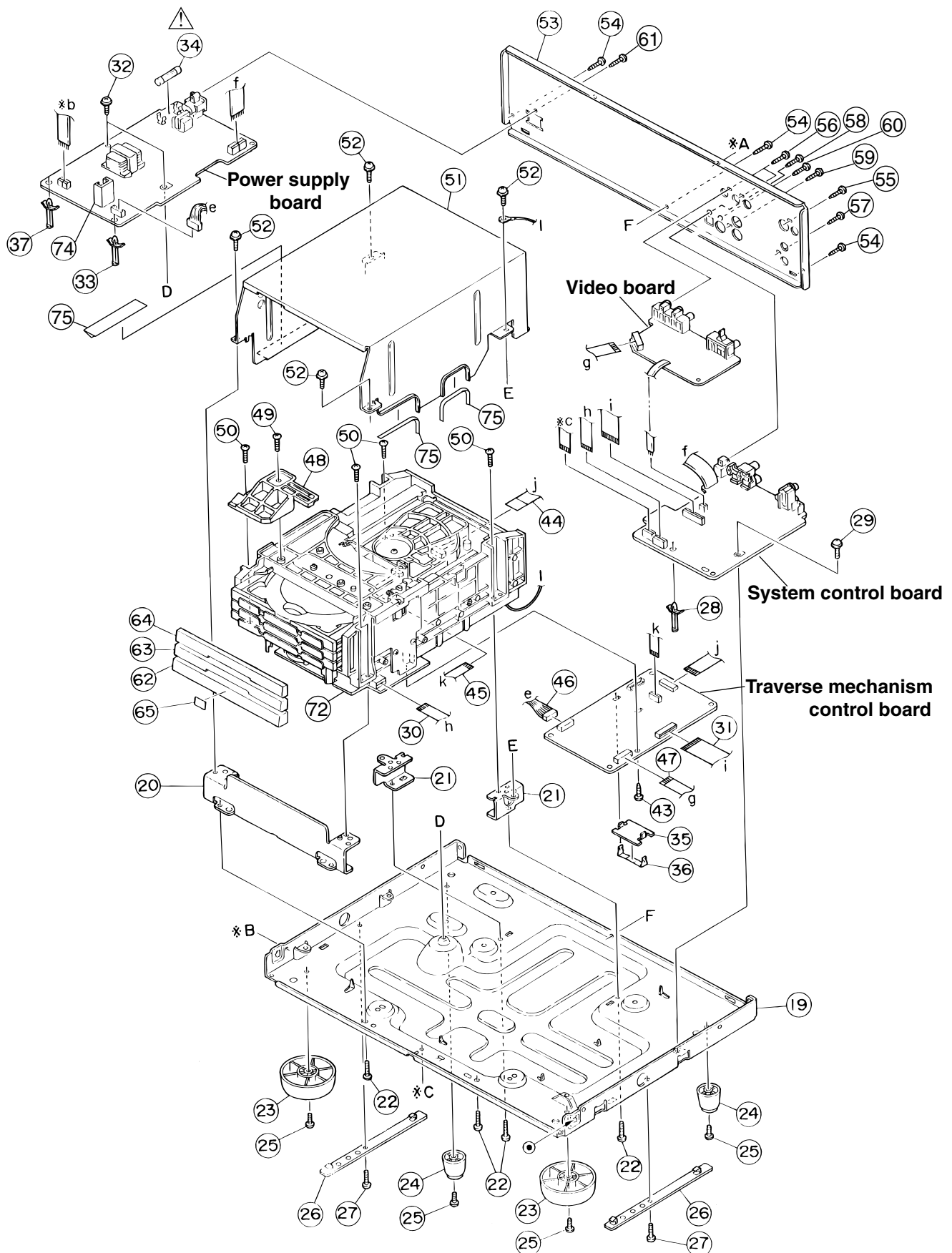
Exploded view of general assembly and parts list	3-2
DVD changer mechanism assembly and parts list	3-6
DVD mechanism assembly and parts list	3-8
Electrical Parts List	3-10
Packing materials and accessories parts list	3-21

Exploded view of general assembly and parts list

Block No.

M	1	M	M
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■ Parts list (General Assembly)

Block No. M1MM

△	Item	Parts number	Parts name	Q'ty	Description	Area
△	1	LV10244-018A	FRONT PANEL	1	XV-M567GD	
		LV10244-015A	FRONT PANEL	1	XV-M565BK	
	2	VJD5429-001SS	JVC MARK	1		
	3	LV10245-006A	CONTROL PANEL	1	XV-M567GD	
		LV10245-001A	CONTROL PANEL	1	XV-M565BK	
	4	LV31260-003A	ZOOM BUTTON	1	XV-M567GD	
		LV31260-001A	ZOOM BUTTON	1	XV-M565BK	
	5	LV20815-002A	PLAY BUTTON	1	XV-M567GD	
		LV20815-001A	PLAY BUTTON	1	XV-M565BK	
	6	LV30787-001A	PUSH BUTTON	1	THEATER	
	7	LV30788-001A	PUSH BUTTON	1	DIMMER	
	8	LV20817-003A	LENS (VIOLET)	1	XV-M567GD	
		LV20817-001A	LENS (VIOLET)	1	XV-M565BK	
	9	QYSDSF2608Z	SCREW	6		
	10	LV32063-001A	POWER BUTTON	1	XV-M565BK	
		LV32063-003A	POWER BUTTON	1	XV-M567GD	
	11	FSJD4001-002	INDICATOR	1		
	12	QYSDSF2608Z	SCREW	8		
	13	QUQ412-0920CM	FFC WIRE	1	CN801 TO CN703	
	14	LV31375-001A	FRONT BRACKET	1		
	15	QYSDSF2608Z	SCREW	4		
	16	LV31163-005A	SHUTTLE RING	1	XV-M567GD	
		LV31163-004A	SHUTTLE RING	1	XV-M565BK	
	17	QYSDSF2608Z	SCREW	3		
	18	QYSDSG3008N	SCREW(F.P-CHAS)	3	XV-M567GD	
		QYSDSG3008M	SCREW(F.P-CHAS)	3	XV-M565BK	
	19	E103006-007SM	CD CHASSIS BASE	1		
	20	LV31373-001A	MECHA.BKT(F)	1	FRONT	
	21	LV31374-001A	MECHA BKT(R)	2	REAR	
	22	QYSBST3008Z	T.SCREW	4	MECHA BKT	
	23	QZF6018-001	FOOT	2		
	24	E47227-036	FOOT	2	REAR	
	25	QYSBST3008Z	T.SCREW	4	FOOT	
	26	LV31244-002A	SPACER	2		
	27	QYSDSG3008M	SCREW	2		
	28	E310244-002	FASTENER	1	AUDIO CB	
	29	QYSBSGG3008E	T.SCREW	1	AUDIO CB	
	30	QUQ412-1020CM	FFC WIRE	1	CN702 TO C5	
	31	QUQ110-2318AM	FFC WIRE	1	CN701 TO C5	
	32	QYSBSGG3008E	T.SCREW	2		
	33	E310244-002	FASTENER	1		
	34	QMF51U1-1R6-J8	FUSE	1	F901	
	35	LV41362-001A	HEAT SINK	1		
	36	LV41363-002A	HOLDER	1		
	37	E310244-003	FASTNER	1		
	43	QYSBSF3008Z	SCREW	1	MODULE CB	
	44	QUQ110-1910AJ	FFC WIRE	1	PU-MODULE FW101	
	45	QUQ110-1110AJ	FFC WIRE	1	PU-MODULE FW102	

■ Parts list (General Assembly)

Block No. M1MM

△	Item	Parts number	Parts name	Q'ty	Description	Area
	46	QJJ015-091204	SIN CR C-C WIRE	1	TO CN961	
	47	QUQ110-0923AM	CARD WIRE	1	TO CN601	
	48	E309662-001SM	DISC STOPPER	1		
	49	QYSBSF3008Z	SCREW	1		
	50	QYSBST3008Z	T.SCREW	4	MECHA	
	51	LV10282-001A	SHIELD CASE	1		
	52	QYSBSGG3008E	T.SCREW	4	SHIELD CASE	
	53	LV20821-014A	REAR PANEL	1	XV-M565BK	
		LV20821-020A	REAR PANEL	1	XV-M567GD	
	54	QYSBSGY3008E	SPECIAL SCREW	3	REAR PANEL	
	55	QYSBSGY3008E	SPECIAL SCREW	1	VIDEO OUT	
	56	QYSBSGY3008E	SPECIAL SCREW	2	AV OUT	
	57	QYSBSGY3008E	SPECIAL SCREW	1	COMPU.LINK	
	58	QYSBSGY3008E	SPECIAL SCREW	1	COAXIAL OUT	
	59	QYSBSGY3008E	SPECIAL SCREW	1	AUDIO OUT	
	60	QYSBSGY3008E	SPECIAL SCREW	1	OPTICAL OUT	
	61	QYSBSGY3008E	SPECIAL SCREW	1	AC OUTLET	
	62	LV20818-001A	FITTING(DISC1 LOWER)	1	XV-M565BK	
		LV20818-003A	FITTING(DISC1 LOWER)	1	XV-M567GD	
	63	LV20819-002A	FITTING(DISC2 CENTR)	1	XV-M567GD	
		LV20819-001A	FITTING(DISC2 CENTR)	1	XV-M565BK	
	64	LV20820-001A	FITTING(DISC3 UPPER)	1	XV-M565BK	
		LV20820-002A	FITTING(DISC3 UPPER)	1	XV-M567GD	
	65	LE40564-002A	MARK	1		
	66	LE30714-001A	KNOB(SHUTTLE)	1	XV-M565BK	
		LE30714-005A	KNOB(SHUTTLE)	1	XV-M567GD	
	67	LV20009-310A	METAL COVER	1	XV-M567GD	
		LV20009-311A	METAL COVER	1	XV-M565BK	
	68	E406308-003	S.SCREW(SIDE M.COVER)	4	XV-M565BK	
		E406308-004	S.SCREW(SIDE M.COVER)	4	XV-M567GD	
	69	QYSBSGY3008E	SPECIAL SCREW	2	M.COVER REAR	
	72	-----	DVD 3CHANGER LO	1	BDL1081-M001YP	
	73	E306805-134	SPACER	1		
	74	LE40505-001A	HEAT SINK	1	HS964	
	75	QLF0064-001	FL TUBE	1	DI801	
		LV30225-059A	SPACER	3		
	76	E308192-001	FL HOLDER	1	BK801	

DVD changer mechanism assembly and parts list

FLM-C5-3M

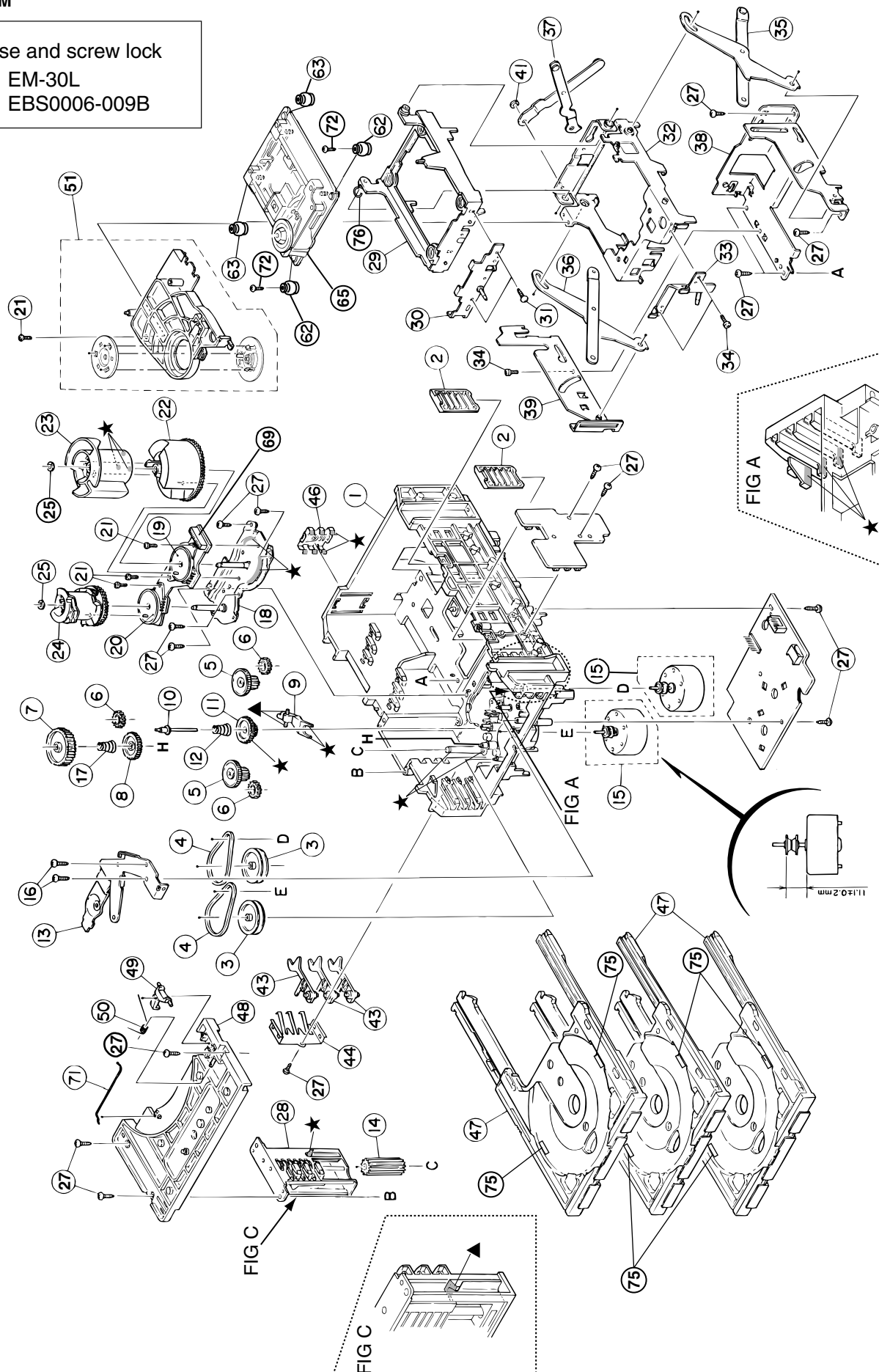
Block No.

M	2	M	M
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Grease and screw lock

★ EM-30L

▲ EBS0006-009B



Parts list (DVD changer mechanism)

Block No. M2MM

△	Item	Parts number	Parts name	Q'ty	Description	Area
	1	VKS1144-003	CHASSIS	1		
	2	VKS3698-003	TRAY GUIDE	2		
	3	VKS5532-003	PULLEY GEAR	2		
	4	VKB3000-164	BELT	2		
	5	VKS5505-003	GEAR B	2		
	6	VKS5506-002	GEAR C	3		
	7	VKS5507-002	CROSS GEAR U	1		
	8	VKS5508-002	CROSS GEAR L	1		
	9	VKS5510-003	SELECT LEVER	1		
	10	VKH5769-001	S.G.SHAFT	1		
	11	VKS5511-002	SELECT GEAR	1		
	12	VKW5155-003	COMP.SPRING	1	FOR SELECT GEAR	
	13	VKM3846-002	GEAR BRACKET	1		
	14	VKS5509-002MM	CYLINDER GEAR	1		
	15	MSN-5D257A-SA2	D.C.MOTOR	2		
	16	QYSPSPD2616Z	SCREW	2	FOR MOTOR	
	17	LV40612-001A	COMP.SPRING	1		
	18	VKM3825-00AMM	C.G.BASE ASS'Y	1		
	19	VKZ3172-00ASS	CAM SW. R ASS'Y	1		
	20	VKZ3173-00ASS	CAM SW. L ASS'Y	1		
	21	QYSPST2606Z	SCREW	4	FOR CAM SW.	
	22	VKS2263-002MM	CAM R1	1		
	23	VKS2264-002MM	CAM R2	1		
	24	VKS2265-002MM	CAM GEAR L	1		
	25	WDL316050MM	SLIT WASHER	2		
	27	QYSBSF2608Z	T.SCREW	16	FOR C.GEAR BASE	
	28	VKS3702-00FMM	DRIVE UNIT	1		
	29	LV20466-001A	MECHA HOLDER A	1		
	30	VKL7767-00C	BRACKET ASSY	1		
	31	QYSBSF2606Z	SCREW	2	FOR BRACKET	
	32	VKM3860-00B	MCHA HOLDER ASS	1		
	33	VKL7802-00C	M.HOLDER C ASS'Y	1		
	34	QYSDST2604Z	SCREW	3	FOR M.HOLDER C	
	35	VKL7810-00A	LIFTER ASS'Y R	1		
	36	VKL7811-00A	LIFTER ASS'Y L	1		
	37	VKL7812-00A	LIFTER ASS'Y H	1		
	38	VKL2732-002	LIFTER BASE	1		
	39	VKM3857-001	LIFTER BRACKET	1		
	41	WDL266035-2	SLIT WASHER	1		
	43	VKS5514-002MM	LOCK LEVER	3		
	44	VKY3133-002MM	RETURN SPRING	1		
	46	VKY3134-003MM	CLICK SPRING	1		
	47	VKS2252-00F	TRAY ASS'Y	3		
	48	VKS2250-003	TOP BRACKET	1		
	49	VKS5515-002	S.TRAY STOPPER	1		
	50	VKW5156-004	TORSION SPRING	1		
	51	VKS3703-00J	CLAMPER ASS'Y	1		
	62	LV41120-001A	INSULATOR	2		
	63	LV41120-002A	INSULATOR	2		
	65	-----	DVD MECHA	1		
	69	QGB2012J1-10	CONNECTOR	1		
	71	VKW5187-001	ROD	1		
	72	LV41119-001A	SPECIAL SCREW	2		
	75	LV41568-002A	SHEET	6		
	76	LV41571-001A	SPACER	1		

DVD mechanism assembly and parts list

FXL-V5M

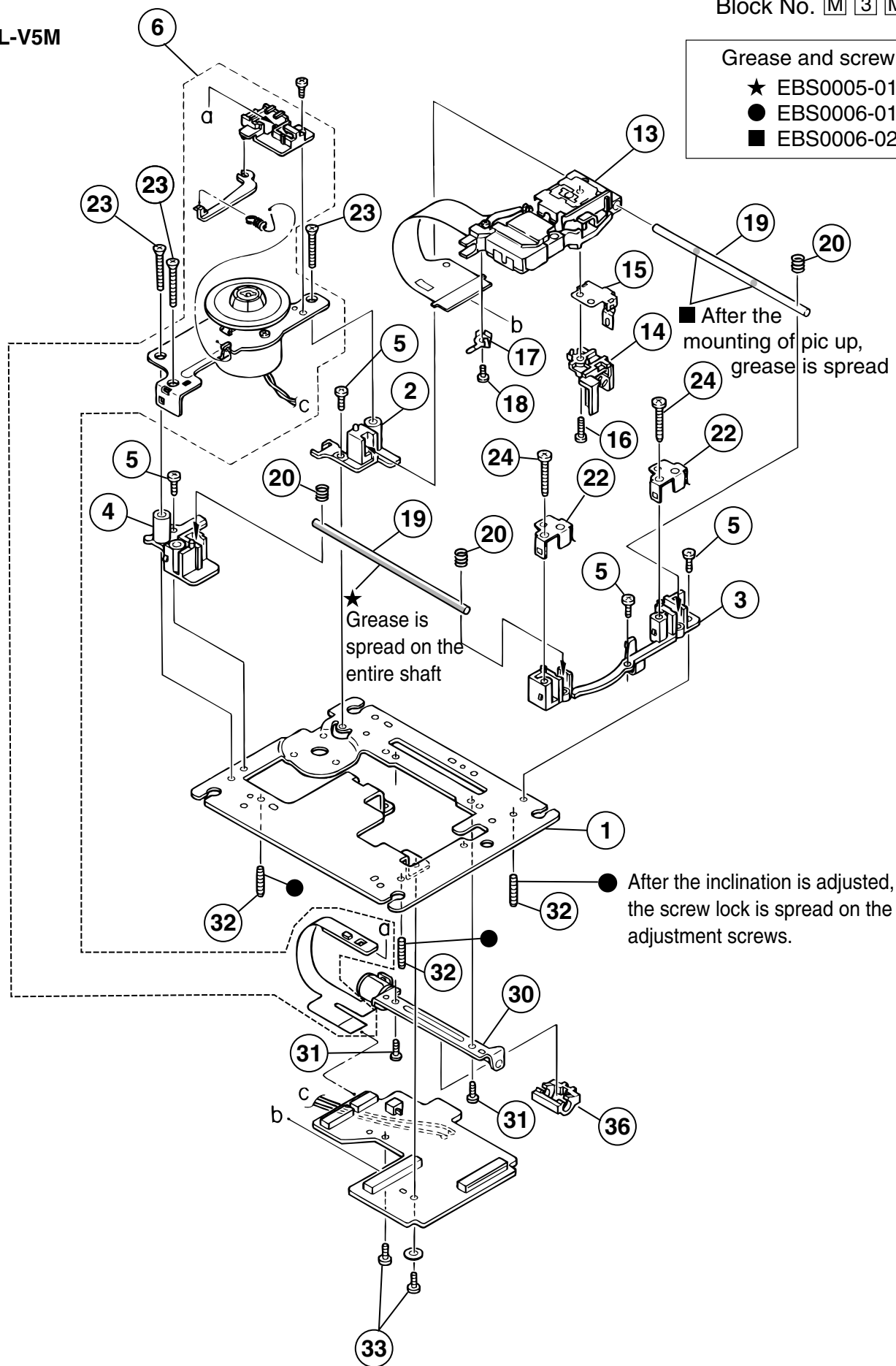
Block No. M 3 M M

Grease and screw lock

★ EBS0005-013B

● EBS0006-014B

■ EBS0006-020B



Parts list (DVD mechanism)

Block No. M3MM

△	Item	Parts number	Parts name	Q'ty	Description	Area
△	1	LV20463-001A	MECHA BASE	1		
	2	LV31286-001A	SHAFT HOLDER 1	1		
	3	LV31287-001A	SHAFT HOLDER 2	1		
	4	LV31288-001A	SHAFT HOLDER 3	1		
	5	QYSBST2005Z	T.SCREW	4	SHAFT HOLDER	
	6	VDG1081-001TT5	SP.MOTOR BKT AS	1	ASS'Y	
	13	QAL0186-001	DVD PICK UP	1		
	14	LV31285-002A	RACK BASE	1	FOR DVD PICK	
	15	LV41109-001A	R.BASE SPRING	1	FOR RACK BASE	
	16	QYSPSPU1740M	SCREW	1	FOR RACK BASE	
	17	LV31359-001A	P.U. SPRING	1	FOR DVD PICK	
	18	LV41021-001A	SPECIAL SCREW	1	FOR P.U.SPRING	
	19	LV41121-001A	SHAFT	2		
	20	LV41115-002A	SPRING	3	FOR TILT	
	22	LV31283-002A	S.HOLDER BKT	2	FOR S.HOLDER2	
	23	QYSSST2615Z	TAP SCREW	3	MOTOR BKT	
	24	QYSDST2616Z	SCREW	2	S.H.BKT*2	
	25	LV41111-002A	FPC HOLDER	1		
	30	QAR0106-001	FEED MOTOR	1		
	31	VKZ4539-026	MINI SCREW	2	FOR F.MOTOR	
	32	QYYASPF2610N	SCREW	3	FOR TILT	
	33	QYSBST2005Z	T.SCREW	2	FOR PW.BORD	
	36	LV41479-002A	RACK COVER	1		

Electrical Parts List

■ Electrical parts list (Main board) Block No. 01

△	Item	Parts number	Parts name	Remarks	Area	△	Item	Parts number	Parts name	Remarks	Area
	C 601	QCS11HJ-181	C CAPACITOR	180PF 5% 50V			C 752	QFN31HJ-333Z	M.CAPACITOR	.033MF 5% 50V	
	C 603	QCS11HJ-680	C CAPACITOR	68PF 5% 50V			C 753	QFLC1HJ-152Z	M CAPACITOR	1500PF 5% 50V	
	C 604	QCS11HJ-150	C CAPACITOR	15PF 5% 50V			C 754	QFLC1HJ-182Z	M CAPACITOR	1800PF 5% 50V	
	C 609	QETN0JM-477Z	E CAPACITOR	470MF 20% 6.3V			C 755	QFN31HJ-103Z	M CAPACITOR	.010MF 5% 50V	
	C 611	QCS11HJ-181	C CAPACITOR	180PF 5% 50V			C 756	QETN1EM-476Z	E CAPACITOR	47MF 20% 25V	
	C 613	QCS11HJ-680	C CAPACITOR	68PF 5% 50V			C 757	QFLC1HJ-152Z	M CAPACITOR	1500PF 5% 50V	
	C 614	QCS11HJ-150	C CAPACITOR	15PF 5% 50V			C 761	QETN1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C 619	QETN0JM-477Z	E CAPACITOR	470MF 20% 6.3V			C 762	QETN1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C 621	QCS11HJ-121	C CAPACITOR	120PF 5% 50V			C 771	QETN1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C 623	QCS11HJ-470	C CAPACITOR	47PF 5% 50V			C 772	QETN1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C 624	QCS11HJ-100	C CAPACITOR	10PF 5% 50V			C 797	NCB21HK-103X	C CAPACITOR		
	C 629	QETN0JM-477Z	E CAPACITOR	470MF 20% 6.3V			C 798	NCB21HK-103X	C CAPACITOR		
	C 631	QCS11HJ-121	C CAPACITOR	120PF 5% 50V			C 801	NCB21EK-104X	C CAPACITOR		
	C 633	QCS11HJ-470	C CAPACITOR	47PF 5% 50V			C 802	QEK1AM-476Z	E.CAPACITOR	47MF 20% 10V	
	C 634	QCS11HJ-100	C CAPACITOR	10PF 5% 50V			C 811	NCB21EK-104X	C CAPACITOR		
	C 639	NCB21EK-104X	C CAPACITOR				C 812	QEK0JM-476Z	E.CAPACITOR	47MF 20% 6.3V	
	C 641	QCS11HJ-121	C CAPACITOR	120PF 5% 50V			C 813	NCB21EK-104X	C CAPACITOR		
	C 643	QCS11HJ-470	C CAPACITOR	47PF 5% 50V			C 814	NCS21HJ-220X	C CAPACITOR		
	C 644	QCS11HJ-100	C CAPACITOR	10PF 5% 50V			C 821	QEK1HM-475Z	E.CAPACITOR	4.7MF 20% 50V	
	C 649	QETN0JM-477Z	E CAPACITOR	470MF 20% 6.3V		△	C 902	QFZ9067-683	C CAPACITOR	.068MF	
	C 659	QETN0JM-477Z	E CAPACITOR	470MF 20% 6.3V		△	C 906	QCZ9079-102	C CAPACITOR	1000PF	
	C 701	QETN1HM-105Z	E CAPACITOR	1.0MF 20% 50V		△	C 907	QETM2DM-157	E CAPACITOR	150MF 20%	
	C 702	NCB21EK-104X	C CAPACITOR				C 908	QCZ0136-332Z	C CAPACITOR	3300PF	
	C 703	QETN1CM-226Z	E CAPACITOR	22MF 20% 16V			C 909	QCZ0136-101Z	C CAPACITOR	100PF	
	C 704	NCB21EK-104X	C CAPACITOR				C 910	QCS11HJ-221	C CAPACITOR	220PF 5% 50V	
	C 705	NCB21EK-104X	C CAPACITOR				C 913	QCZ0136-221Z	C CAPACITOR	220PF	
	C 706	QFVF1HJ-104Z	TF CAPACITOR	.10MF 5% 50V			C 914	QEMX1EM-396Z	E CAPA I/M	39MF 20% 25V	
	C 707	QETN0JM-107Z	E CAPACITOR	100MF 20% 6.3V			C 915	QCB1HK-471Y	C CAPACITOR	470PF 10% 50V	
	C 708	NCB21EK-104X	C CAPACITOR			△	C 916	QCZ9079-332	C CAPACITOR	3300PF	
	C 709	NCS21HJ-331X	C CAPACITOR				C 917	QCZ0205-155Z	ML C CAPACITOR	1.5MF	
	C 710	QETN1AM-477Z	E CAPACITOR	470MF 20% 10V			C 918	QCFB1HZ-104Y	C CAPACITOR	.10MF +80:-20%	
	C 711	QCZ0205-155Z	ML C CAPACITOR	1.5MF			C 931	QCZ0205-155Z	ML C CAPACITOR	1.5MF	
	C 712	QETN0JM-477Z	E CAPACITOR	470MF 20% 6.3V			C 951	QCS11HJ-101	C CAPACITOR	100PF 5% 50V	
	C 714	QETN0JM-477Z	E CAPACITOR	470MF 20% 6.3V			C 952	QCS11HJ-101	C CAPACITOR	100PF 5% 50V	
	C 715	QCZ0205-155Z	ML C CAPACITOR	1.5MF			C 953	QCS11HJ-101	C CAPACITOR	100PF 5% 50V	
	C 716	QETN0JM-477Z	E CAPACITOR	470MF 20% 6.3V			C 954	QCS11HJ-101	C CAPACITOR	100PF 5% 50V	
	C 717	QCZ0205-155Z	ML C CAPACITOR	1.5MF			C 956	QCS11HJ-101	C CAPACITOR	100PF 5% 50V	
	C 718	QETN0JM-477Z	E CAPACITOR	470MF 20% 6.3V			C 957	QCS11HJ-101	C CAPACITOR	100PF 5% 50V	
	C 720	NCB21EK-104X	C CAPACITOR				C 960	QEMX1AM-826Z	E CAPA. I/M	82MF 20% 10V	
	C 721	QCZ0205-155Z	ML C CAPACITOR	1.5MF			C 961	QCZ0205-155Z	ML C CAPACITOR	1.5MF	
	C 722	QCF11HZ-473	C CAPACITOR	.047MF +80:-20%			C 962	QETN1HM-226Z	E CAPACITOR	22MF 20% 50V	
	C 724	QCF11HZ-103	C CAPACITOR	.010MF +80:-20%			C 963	QEMX1HM-396Z	E CAPA I/M	39MF 20% 50V	
	C 725	QETN1CM-477Z	E CAPACITOR	470MF 20% 16V			C 964	QETN1HM-226Z	E CAPACITOR	22MF 20% 50V	
	C 726	QETN1CM-227Z	E CAPACITOR	220MF 20% 16V			C 965	QEMV1AM-108	E CAPACITOR	1000MF 20% 10V	
	C 727	QETN1AM-227Z	E CAPACITOR	220MF 20% 10V			C 966	QETN1AM-477Z	E CAPACITOR	470MF 20% 10V	
	C 728	QETN1AM-107Z	E CAPACITOR	100MF 20% 10V			C 967	QFVJ1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C 730	QFVJ1HJ-474Z	CAPACITOR	.47MF 5% 50V			C 968	QFVJ1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C 731	QDYB1CM-103Y	C.CAPACITOR				C 969	QETN1AM-227Z	E CAPACITOR	220MF 20% 10V	
	C 732	QDGB1HK-102Y	C CAPACITOR				C 970	QFVJ1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C 733	QDGB1HK-102Y	C CAPACITOR				C 973	QETN1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 734	QDX31EM-473Z	C.CAPACITOR				C 974	QETN1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 735	NCB21EK-104X	C CAPACITOR				C 976	QFVJ1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C 736	NCB21EK-104X	C CAPACITOR				C 977	QFVJ1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C 740	QFLC1HJ-152Z	M CAPACITOR	1500PF 5% 50V			C 978	QETN1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 741	QFLC1HJ-181Z	M.CAPACITOR	180PF 5% 50V			C 979	QEMV1CM-827	E CAPACITOR	820MF 20% 16V	
	C 742	QFN31HJ-333Z	M.CAPACITOR	.033MF 5% 50V			C 981	QCZ0205-155Z	ML C CAPACITOR	1.5MF	
	C 743	QFLC1HJ-152Z	M CAPACITOR	1500PF 5% 50V			C 982	QEMV1EM-567	E CAPACITOR	560MF 20% 25V	
	C 744	QFLC1HJ-182Z	M CAPACITOR	1800PF 5% 50V			C 984	QETN1EM-227Z	E CAPACITOR	220MF 20% 25V	
	C 745	QFN31HJ-103Z	M CAPACITOR	.010MF 5% 50V			C 987	QEMX1EM-187Z	E CAPA I/M	180MF 20% 25V	
	C 746	QETN1EM-476Z	E CAPACITOR	47MF 20% 25V			C 989	QETN1EM-107Z	E CAPACITOR	100MF 20% 25V	
	C 747	QFLC1HJ-152Z	M CAPACITOR	1500PF 5% 50V			C 992	QETN1HM-474Z	E CAPACITOR	.47MF 20% 50V	
	C 750	QFLC1HJ-152Z	M CAPACITOR	1500PF 5% 50V			C 993	QCS11HJ-101	C CAPACITOR	100PF 5% 50V	
	C 751	QFLC1HJ-181Z	M.CAPACITOR	180PF 5% 50V			C 994	QDVB1EZ-223Y	C CAPACITOR		

■ Electrical parts list (Main board)

Block No. 01

△	Item	Parts number	Parts name	Remarks	Area	△	Item	Parts number	Parts name	Remarks	Area
	C 995	QETN1CM-227Z	E CAPACITOR	220MF 20% 16V			EP951	QNZ0136-001Z	EARTH PLATE		
	C 996	QETN1CM-226Z	E CAPACITOR	22MF 20% 16V			FC901	QNG0003-001Z	FUSE CLIP		
	C 997	QETN1CM-227Z	E CAPACITOR	220MF 20% 16V			FC902	QNG0003-001Z	FUSE CLIP		
	CN601	QGF1016F1-09	CONNECTOR				FW601	QUM133-10DGZ4	PARA RIBON WIRE	TO CN704	
	CN701	QGF1016C1-23	CONNECTOR				FW701	QUM138-26DGZ4	PARA RIBON WIRE	TO CN951&CN952	
	CN702	QGF1205C1-10	CONNECTOR				FW801	QUM136-16DGZ4	PARA RIBON WIRE	TO CN971&CN972	
	CN703	QGF1205C1-09	CONNECTOR				FW802	QUM133-15Z4Z4	PARA RIBON WIRE	TO FW841(SHUT)	
	CN704	QGD2501C1-03Z	SOCKET				IC701	MN101C12GHC	IC	SYSTEM MICOM	
	CN801	QGF1210G1-09	CONNECTOR				IC702	IC-PST9140-T	IC		
	CN951	QGD2501C1-04Z	SOCKET				IC703	MN35503-X	IC		
	CN952	QGD2501C1-04Z	SOCKET				IC704	TC7S08F-W	IC		
	CN961	QGA2001C1-09	9P PLUG ASSY			△	IC711	BA41W12ST-V5	IC		
	CN971	QGD2501C1-03Z	SOCKET				IC741	NJM4580M-X	IC		
	CN972	QGD2501C1-03Z	SOCKET				IC751	NJM4580M-X	IC		
△	CP951	ICP-N10-T	ICP				IC791	AK93C45AF-W	IC		
△	CP952	ICP-N5-T	ICP				IC801	GP1U271X	RM RECIVER		
	C1701	QETN1EM-476Z	E CAPACITOR	47MF 20% 25V			IC802	M35500BGP	FL DRIVER		
	C1702	QETN1EM-476Z	E CAPACITOR	47MF 20% 25V		△	IC901	STR-G6651	IC		
	C1703	NCS21HJ-151X	C CAPACITOR				IC951	PQ05RD21	IC		
	C1704	NCS21HJ-221X	C CAPACITOR			△	IC953	NJM78M05FA	IC		
	C1705	NCS21HJ-221X	C CAPACITOR				J 601	QNN0317-001	PIN JACK	COMPONENT	
	D 609	1SS133-T2	SI DIODE				J 602	QNZ0430-001	AV JACK	S-OUT&VIDEO	
	D 619	1SS133-T2	SI DIODE				J 701	QNN0170-002	PIN JACK	AUDIO OUT	
	D 629	1SS133-T2	SI DIODE				J 702	QNS0083-001	3.5 JACK	AV COMPLINK	
	D 639	1SS133-T2	SI DIODE				J 703	GP1FA550TZ	OPT TRANSMITTER	OPT DIGITAL OUT	
	D 649	1SS133-T2	SI DIODE				J 704	QNN0347-001	PIN JACK	COAXIAL DIGITAL	
	D 701	1SS133-T2	SI DIODE				K 601	QQR0601-001Z	FERRITE BEADS		
	D 702	MTZJ3.3B-T2	ZENER DIODE IM				K 603	QQR0601-001Z	FERRITE BEADS		
	D 709	1SS133-T2	SI DIODE				K 701	NQR0227-004X	FERRITE BEADS		
	D 731	KV1555N-T	VARI CAPACITOR				K 702	NQR0227-004X	FERRITE BEADS		
	D 732	KV1555N-T	VARI CAPACITOR				K 703	NQR0227-004X	FERRITE BEADS		
	D 733	MTZJ5.1C-T2	ZENER DIODE				K 704	NQR0227-004X	FERRITE BEADS		
	D 791	1SS133-T2	SI DIODE				K 706	NQR0227-004X	FERRITE BEADS		
	D 792	1SS133-T2	SI DIODE				K 708	NQR0227-004X	FERRITE BEADS		
	D 801	SLR-342VC-T	LED	STANDBY			K 902	QQR0601-001Z	FERRITE BEADS		
	D 821	SLR-342MC-T	LED				L 601	QQL071J-120Y	INDUCTOR		
	D 822	SLR-342MC-T	LED				L 602	QQL071J-5R6Y	INDUCTOR		
	D 823	SLR-342MC-T	LED				L 611	QQL071J-120Y	INDUCTOR		
	D 831	1SS133-T2	SI DIODE				L 612	QQL071J-5R6Y	INDUCTOR		
	D 832	1SS133-T2	SI DIODE				L 621	QQL071J-120Y	INDUCTOR		
	D 833	1SS133-T2	SI DIODE				L 622	QQL071J-5R6Y	INDUCTOR		
△	D 901	S1WB/A/60-4101	BRIDGE DIODE				L 631	QQL071J-120Y	INDUCTOR		
△	D 902	ERA18-04-T1	FR DIODE				L 632	QQL071J-5R6Y	INDUCTOR		
△	D 903	ERA18-04-T1	FR DIODE				L 641	QQL071J-120Y	INDUCTOR		
△	D 904	ERA18-04-T1	FR DIODE				L 642	QQL071J-5R6Y	INDUCTOR		
△	D 908	ERA18-04-T1	FR DIODE				L 709	QQL071J-2R2Y	INDUCTOR		
△	D 910	ERA18-04-T1	FR DIODE				L 710	QQL071J-221Y	INDUCTOR		
	D 911	1SS133-T2	SI DIODE				L 731	QQL071J-1R2Y	INDUCTOR		
	D 950	MTZJ22C-T2	ZENER DIODE			△	L 901	QQR0894-001	LINE FILTER		
△	D 951	ERA18-04-T1	FR DIODE				L 951	QQL01BK-R22Z	P COIL		
△	D 952	ERA18-04-T1	FR DIODE				L 952	QQL31AK-101Z	INDUCTOR		
△	D 953	FMB-24	FUSEIODE				L 955	QQL31AK-101Z	INDUCTOR		
△	D 954	ERA18-04-T1	FR DIODE				L 957	QQL31AK-101Z	INDUCTOR		
△	D 956	ERA18-04-T1	FR DIODE				L 959	QQL31AK-101Z	INDUCTOR		
△	D 957	ERA18-04-T1	FR DIODE				P 901	QNC0046-001	AC INLET		
	D 960	MTZJ2.0A-T2	ZENER DIODE			△	PC901	PC123FY	IC(PHOTO COUPLE		
	D 970	1SS133-T2	SI DIODE			△	PC902	PC123FY	IC(PHOTO COUPLE		
	D 971	1SR35-100A-T5	SI DIODE				Q 601	2SA1175/FE/-T	TRANSISTOR		
	D 972	1SS133-T2	SI DIODE				Q 611	2SA1175/FE/-T	TRANSISTOR		
	D 973	1SS133-T2	SI DIODE				Q 621	2SA1175/FE/-T	TRANSISTOR		
	D 974	1SS133-T2	SI DIODE				Q 631	2SA1175/FE/-T	TRANSISTOR		
	D 991	MTZJ5.1C-T2	ZENER DIODE				Q 641	2SA1175/FE/-T	TRANSISTOR		
	EP711	QNZ0136-001Z	EARTH PLATE				Q 709	DTC114YKA-X	CHIP D.TRANSIST		

■ Electrical parts list (Main board)

Block No. 01

△	Item	Parts number	Parts name	Remarks	Area
△	Q 711	DTA114EKA-X	DIGITAL.TRANSIS		
	Q 741	2SC3576-JVC-T	TRANSISTOR I/M	FREQ	
	Q 743	2SC3576-JVC-T	TRANSISTOR I/M	AMUTE1	
	Q 751	2SC3576-JVC-T	TRANSISTOR I/M	FREQ	
	Q 753	2SC3576-JVC-T	TRANSISTOR I/M	AMUTE1	
	Q 791	DTA114EKA-X	DIGITAL.TRANSIS		
	Q 821	DTC124EKA-X	TRANSISTOR		
	Q 822	DTC124EKA-X	TRANSISTOR		
	Q 823	DTC124EKA-X	TRANSISTOR		
	Q 951	2SC2060/QR/-T	TRANSISTOR		
	Q 952	DTA144EKA-X	TRANSISTOR		
	Q 953	2SA1175/FE/-T	TRANSISTOR		
	Q 964	2SB1565/EF/	TRANSISTOR		
	Q 965	2SC2785/FE/-T	TRANSISTOR		
	Q 966	2SA1175/FE/-T	TRANSISTOR		
	Q 991	2SC2785/FE/-T	TRANSISTOR		
	R 601	NRSA02J-270X	MG RESISTOR		
	R 602	NRSA02J-391X	MG RESISTOR		
	R 603	NRSA02J-270X	MG RESISTOR		
	R 604	NRSA02J-391X	MG RESISTOR		
	R 605	NRSA02J-221X	MG RESISTOR		
	R 606	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 609	NRSA02J-750X	MG RESISTOR		
	R 611	NRSA02J-270X	MG RESISTOR		
	R 612	NRSA02J-391X	MG RESISTOR		
	R 613	NRSA02J-270X	MG RESISTOR		
	R 614	NRSA02J-391X	MG RESISTOR		
	R 615	NRSA02J-221X	MG RESISTOR		
	R 616	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 619	NRSA02J-750X	MG RESISTOR		
	R 621	NRSA02J-751X	MG RESISTOR		
	R 622	NRSA02J-751X	MG RESISTOR		
	R 623	NRSA02J-751X	MG RESISTOR		
	R 624	NRSA02J-751X	MG RESISTOR		
	R 625	NRSA02J-221X	MG RESISTOR		
	R 629	NRSA02J-750X	MG RESISTOR		
	R 631	NRSA02J-680X	MG RESISTOR		
	R 632	NRSA02J-391X	MG RESISTOR		
	R 633	NRSA02J-680X	MG RESISTOR		
	R 634	NRSA02J-391X	MG RESISTOR		
	R 635	NRSA02J-221X	MG RESISTOR		
	R 636	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 639	NRSA02J-750X	MG RESISTOR		
	R 641	NRSA02J-751X	MG RESISTOR		
	R 642	NRSA02J-751X	MG RESISTOR		
	R 643	NRSA02J-751X	MG RESISTOR		
	R 644	NRSA02J-751X	MG RESISTOR		
	R 645	NRSA02J-221X	MG RESISTOR		
	R 649	NRSA02J-750X	MG RESISTOR		
	R 650	QRE141J-561Y	C RESISTOR	560 5% 1/4W	
	R 651	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 659	NRSA02J-750X	MG RESISTOR		
	R 701	NRSA02J-102X	MG RESISTOR		
	R 702	NRSA02J-472X	MG RESISTOR		
	R 703	NRSA02J-105X	MG RESISTOR		
	R 704	NRSA02J-102X	MG RESISTOR		
	R 705	NRSA02J-2R2X	MG RESISTOR		
	R 706	NRSA02J-104X	MG RESISTOR		
	R 707	NRSA02J-101X	MG RESISTOR		
	R 708	NRSA02J-101X	MG RESISTOR		
	R 709	NRSA02J-103X	MG RESISTOR		
	R 711	NRSA02J-560X	MG RESISTOR		
	R 712	NRSA02J-560X	MG RESISTOR		

△	Item	Parts number	Parts name	Remarks	Area
	R 713	NRSA02J-560X	MG RESISTOR		
	R 714	NRSA02J-152X	MG RESISTOR		
	R 715	NRSA02J-560X	MG RESISTOR		
	R 716	NRSA02J-152X	MG RESISTOR		
	R 717	NRSA02J-101X	MG RESISTOR		
	R 718	NRSA02J-0R0X	MG RESISTOR		
	R 719	NRSA02J-0R0X	MG RESISTOR		
	R 720	NRSA02J-0R0X	MG RESISTOR		
	R 721	NRSA02J-471X	MG RESISTOR		
	R 722	NRSA02J-471X	MG RESISTOR		
	R 723	NRSA02J-471X	MG RESISTOR		
	R 724	NRSA02J-471X	MG RESISTOR		
	R 725	NRSA02J-511X	MG RESISTOR		
	R 726	NRSA02J-471X	MG RESISTOR		
	R 727	NRSA02J-102X	MG RESISTOR		
	R 728	NRSA02J-471X	MG RESISTOR		
	R 729	NRSA02J-471X	MG RESISTOR		
	R 730	NRSA02J-333X	MG RESISTOR		
	R 731	NRSA02J-102X	MG RESISTOR		
	R 732	NRSA02J-333X	MG RESISTOR		
	R 733	NRSA02J-104X	MG RESISTOR		
	R 734	NRSA02J-333X	MG RESISTOR		
	R 735	NRSA02J-104X	MG RESISTOR		
	R 736	NRSA02J-181X	MG RESISTOR		
	R 737	NRSA02J-104X	MG RESISTOR		
	R 738	NRSA02J-153X	MG RESISTOR		
	R 739	NRSA02J-102X	MG RESISTOR		
	R 740	QRE141J-243Y	C RESISTOR	24K 5% 1/4W	
	R 741	QRE141J-243Y	C RESISTOR	24K 5% 1/4W	
	R 742	QRE141J-163Y	C RESISTOR	16K 5% 1/4W	
	R 743	QRE141J-163Y	C RESISTOR	16K 5% 1/4W	
	R 744	NRSA02J-682X	MG RESISTOR		
	R 745	QRE141J-183Y	C RESISTOR	18K 5% 1/4W	
	R 746	NRSA02J-821X	MG RESISTOR		
	R 747	NRSA02J-362X	MG RESISTOR		
	R 748	NRSA02J-561X	MG RESISTOR		
	R 749	NRSA02J-103X	MG RESISTOR		
	R 750	QRE141J-243Y	C RESISTOR	24K 5% 1/4W	
	R 751	QRE141J-243Y	C RESISTOR	24K 5% 1/4W	
	R 752	QRE141J-163Y	C RESISTOR	16K 5% 1/4W	
	R 753	QRE141J-163Y	C RESISTOR	16K 5% 1/4W	
	R 754	NRSA02J-682X	MG RESISTOR		
	R 755	QRE141J-183Y	C RESISTOR	18K 5% 1/4W	
	R 756	NRSA02J-821X	MG RESISTOR		
	R 757	NRSA02J-362X	MG RESISTOR		
	R 758	NRSA02J-561X	MG RESISTOR		
	R 759	NRSA02J-103X	MG RESISTOR		
	R 760	NRSA02J-105X	MG RESISTOR		
	R 761	NRSA02J-561X	MG RESISTOR		
	R 762	NRSA02J-821X	MG RESISTOR		
	R 764	NRSA02J-183X	MG RESISTOR		
	R 765	NRSA02J-561X	MG RESISTOR		
	R 766	NRSA02J-273X	MG RESISTOR		
	R 767	NRSA02J-151X	MG RESISTOR		
	R 768	NRSA02J-103X	MG RESISTOR		
	R 770	NRSA02J-105X	MG RESISTOR		
	R 771	NRSA02J-561X	MG RESISTOR		
	R 772	NRSA02J-821X	MG RESISTOR		
	R 774	NRSA02J-183X	MG RESISTOR		
	R 775	NRSA02J-561X	MG RESISTOR		
	R 776	NRSA02J-273X	MG RESISTOR		
	R 777	NRSA02J-151X	MG RESISTOR		
	R 778	NRSA02J-103X	MG RESISTOR		

■ Electrical parts list (Main board)

Block No. 01

Item	Parts number	Parts name	Remarks	Area	Item	Parts number	Parts name	Remarks	Area
R 782	NRSA02J-221X	MG RESISTOR			R 971	NRSA02J-472X	MG RESISTOR		
R 783	NRSA02J-221X	MG RESISTOR			R 972	NRSA02J-152X	MG RESISTOR		
R 786	NRSA02J-333X	MG RESISTOR			R 973	NRSA02J-102X	MG RESISTOR		
R 788	NRSA02J-222X	MG RESISTOR			R 974	NRSA02J-562X	MG RESISTOR		
R 789	NRSA02J-222X	MG RESISTOR			R 975	NRSA02J-562X	MG RESISTOR		
R 792	NRSA02J-221X	MG RESISTOR			R 976	NRSA02J-221X	MG RESISTOR		
R 793	NRSA02J-221X	MG RESISTOR			R 980	NRSA02J-272X	MG RESISTOR		
R 796	NRSA02J-472X	MG RESISTOR			R1704	NRSA02J-103X	MG RESISTOR		
R 797	NRSA02J-473X	MG RESISTOR			R1707	NRSA02J-222X	MG RESISTOR		
R 798	NRSA02J-473X	MG RESISTOR			R1708	NRSA02J-222X	MG RESISTOR		
R 801	NRSA02J-222X	MG RESISTOR			R1709	NRSA02J-102X	MG RESISTOR		
R 802	NRSA02J-222X	MG RESISTOR			R1710	NRSA02J-102X	MG RESISTOR		
R 803	NRSA02J-222X	MG RESISTOR			R1711	NRSA02J-102X	MG RESISTOR		
R 804	NRSA02J-222X	MG RESISTOR			R1712	NRSA02J-331X	MG RESISTOR		
R 805	NRSA02J-222X	MG RESISTOR			R1713	NRSA02J-101X	MG RESISTOR		
R 806	NRSA02J-102X	MG RESISTOR			R1714	NRSA02J-472X	MG RESISTOR		
R 807	NRSA02J-102X	MG RESISTOR			R1715	NRSA02J-103X	MG RESISTOR		
R 808	NRSA02J-102X	MG RESISTOR			R1716	NRSA02J-102X	MG RESISTOR		
R 809	NRSA02J-102X	MG RESISTOR			R1721	NRSA02J-331X	MG RESISTOR		
R 810	NRSA02J-102X	MG RESISTOR			R1722	NRSA02J-750X	MG RESISTOR		
R 811	NRSA02J-102X	MG RESISTOR			R1723	NRSA02J-270X	MG RESISTOR		
R 812	NRSA02J-102X	MG RESISTOR			S 801	QSW0683-001Z	PUSH SW I.M		
R 813	NRSA02J-102X	MG RESISTOR			S 811	QSW0683-001Z	PUSH SW I.M		
R 821	NRSA02J-102X	MG RESISTOR			S 812	QSW0683-001Z	PUSH SW I.M		
R 825	NRSA02J-271X	MG RESISTOR			S 813	QSW0683-001Z	PUSH SW I.M		
R 826	NRSA02J-271X	MG RESISTOR			S 814	QSW0683-001Z	PUSH SW I.M		
R 827	NRSA02J-271X	MG RESISTOR			S 815	QSW0683-001Z	PUSH SW I.M		
R 830	NRSA02J-431X	MG RESISTOR			S 821	QSW0683-001Z	PUSH SW I.M		
R 831	NRSA02J-681X	MG RESISTOR			S 822	QSW0683-001Z	PUSH SW I.M		
R 832	NRSA02J-112X	MG RESISTOR			S 823	QSW0683-001Z	PUSH SW I.M		
R 833	NRSA02J-222X	MG RESISTOR			S 824	QSW0683-001Z	PUSH SW I.M		
R 840	NRSA02J-431X	MG RESISTOR			S 825	QSW0683-001Z	PUSH SW I.M		
R 841	NRSA02J-681X	MG RESISTOR			S 826	QSW0683-001Z	PUSH SW I.M		
R 842	NRSA02J-112X	MG RESISTOR			S 831	QSW0683-001Z	PUSH SW I.M		
R 843	NRSA02J-222X	MG RESISTOR			S 832	QSW0683-001Z	PUSH SW I.M		
R 844	NRSA02J-682X	MG RESISTOR			S 833	QSW0683-001Z	PUSH SW I.M		
R 845	NRSA02J-431X	MG RESISTOR			S 834	QSW0683-001Z	PUSH SW I.M		
R 846	NRSA02J-681X	MG RESISTOR			S 835	QSW0683-001Z	PUSH SW I.M		
R 847	NRSA02J-112X	MG RESISTOR			S 836	QSW0683-001Z	PUSH SW I.M		
R 848	NRSA02J-222X	MG RESISTOR			S 841	QVQ0123-B15	SHUTTLE VR		
R 849	NRSA02J-682X	MG RESISTOR			SP701	VYH7653-001	IC HOLDER	FOR IC701	
R 900	NRSA02J-221X	MG RESISTOR			SP802	VYH7653-002	IC HOLDER	FOR IC802	
R 901	QRL01DJ-683X	OMF RESISTOR	68K 5% 1/1W		T 701	QQR0880-001	PULSE TRANS		
R 903	QRE141J-270Y	C RESISTOR	27 5% 1/4W		T 901	QQS0028-001	SW TRANSF		
R 904	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W		X 701	QAX0356-001Z	RESONATOR		
R 905	QRL027J-683	OMF RESISTOR	68K 5% 1/2W						
R 906	QRE141J-681Y	C RESISTOR	680 5% 1/4W						
R 907	QRT022J-R47	OMF RESISTOR	5% 1/2W						
R 908	QRE141J-332Y	C RESISTOR	3.3K 5% 1/4W						
R 910	QRE141J-754Y	C RESISTOR	750K 5% 1/4W						
R 911	QRE141J-754Y	C RESISTOR	750K 5% 1/4W						
R 952	NRSA02J-103X	MG RESISTOR							
R 953	NRSA02J-103X	MG RESISTOR							
R 954	QRZ9006-4R7X	F RESISTOR	4.7 1/0W						
R 955	NRSA02J-223X	MG RESISTOR							
R 956	QRE141J-100Y	C RESISTOR	10 5% 1/4W						
R 960	NRSA02J-101X	MG RESISTOR							
R 961	NRSA02J-681X	MG RESISTOR							
R 962	NRSA02J-105X	MG RESISTOR							
R 963	NRSA02J-101X	MG RESISTOR							
R 964	NRSA02J-105X	MG RESISTOR							
R 965	NRSA02J-103X	MG RESISTOR							
R 969	NRSA02J-221X	MG RESISTOR							

■ Electrical parts list (Traverse mechanism control board) Block No. 02

△	Item	Parts number	Parts name	Remarks	Area
	C 101	NCB31CK-104X	C CAPACITOR		
	C 102	NEA70JM-476X	E.CAPACITOR		
	C 103	NCB31CK-104X	C CAPACITOR		
	C 104	NCS31HJ-560X	C CAPACITOR		
	C 105	NCS31HJ-101X	C.CAPACITOR		
	C 106	NEA71CM-106X	E.CAPACITOR		
	C 107	NCB31CK-104X	C CAPACITOR		
	C 108	NCB31CK-104X	C CAPACITOR		
	C 109	NCB31CK-104X	C CAPACITOR		
	C 110	NCS31HJ-101X	C.CAPACITOR		
	C 111	NCB21CK-184X	C CAPACITOR		
	C 112	NCB31CK-104X	C CAPACITOR		
	C 113	NCB31CK-104X	C CAPACITOR		
	C 114	NCB31CK-104X	C CAPACITOR		
	C 115	NCB31HK-392X	C CAPACITOR		
	C 116	NCB31CK-104X	C CAPACITOR		
	C 117	NCB11CK-105X	C CAPACITOR		
	C 118	NEX40JM-336X	E CAPACITOR		
	C 119	NCB31CK-104X	C CAPACITOR		
	C 120	NCB31CK-104X	C CAPACITOR		
	C 121	NCB21CK-334X	C CAPACITOR		
	C 122	NCS31HJ-121X	C CAPACITOR		
	C 123	NCB31CK-104X	C CAPACITOR		
	C 124	NCB31CK-104X	C CAPACITOR		
	C 125	NCB31CK-104X	C CAPACITOR		
	C 126	NCS31HJ-221X	C CAPACITOR		
	C 127	NCS31HJ-221X	C CAPACITOR		
	C 128	NCB31CK-104X	C CAPACITOR		
	C 129	NCB21CK-224X	C CAPACITOR		
	C 130	NCB31HK-102X	C CAPACITOR		
	C 131	NCB31HK-681X	C CAPACITOR		
	C 132	NCB31CK-104X	C CAPACITOR		
	C 133	NEX40JM-566X	E CAPACITOR		
	C 134	NCB11CK-105X	C CAPACITOR		
	C 135	NCS31HJ-221X	C CAPACITOR		
	C 136	NCB31CK-104X	C CAPACITOR		
	C 137	NCB31CK-104X	C CAPACITOR		
	C 138	NCB31CK-104X	C CAPACITOR		
	C 139	NCB31CK-104X	C CAPACITOR		
	C 140	NCB31CK-104X	C CAPACITOR		
	C 141	NCS31HJ-820X	C CAPACITOR		
	C 142	NCB31HK-222X	C CAPACITOR		
	C 143	NCB21CK-224X	C CAPACITOR		
	C 144	NCB31CK-104X	C CAPACITOR		
	C 145	NCB11CK-105X	C CAPACITOR		
	C 151	NEX40JM-156X	E.CAPACITOR		
	C 152	NEX40JM-156X	E.CAPACITOR		
	C 153	NCB31CK-104X	C CAPACITOR		
	C 154	NCB31CK-104X	C CAPACITOR		
	C 191	NCB31CK-104X	C CAPACITOR		
	C 192	NEA70JM-107X	E.CAPACITOR		
	C 201	NCB31CK-104X	C CAPACITOR		
	C 202	NCB31CK-393X	C CAPACITOR		
	C 203	NCB31CK-393X	C CAPACITOR		
	C 204	NCB31CK-393X	C CAPACITOR		
	C 205	NCB31CK-393X	C CAPACITOR		
	C 206	NCB31CK-104X	C CAPACITOR		
	C 208	NCB31CK-104X	C CAPACITOR		
	C 209	NCB31CK-104X	C CAPACITOR		
	C 210	NCB31CK-104X	C CAPACITOR		
	C 211	NCB31CK-104X	C CAPACITOR		
	C 212	NCB31CK-104X	C CAPACITOR		
	C 213	NCB31CK-104X	C CAPACITOR		

△	Item	Parts number	Parts name	Remarks	Area
	C 214	NCB31CK-104X	C CAPACITOR		
	C 215	NCB31HK-392X	C CAPACITOR		
	C 217	NCB31HK-821X	C CAPACITOR		
	C 218	NCB31HK-331X	C CAPACITOR		
	C 219	NCB31HK-471X	C CAPACITOR		
	C 221	NCB31HK-271X	C CAPACITOR		
	C 222	NCB31HK-821X	C CAPACITOR		
	C 223	NCB31HK-821X	C CAPACITOR		
	C 224	NEA70JM-226X	E CAPACITOR		
	C 225	NCB11CK-105X	C CAPACITOR		
	C 226	NCB31CK-104X	C CAPACITOR		
	C 227	NCB31CK-104X	C CAPACITOR		
	C 228	NEA70JM-107X	E.CAPACITOR		
	C 229	NCB11CK-105X	C CAPACITOR		
	C 230	NCB31CK-104X	C CAPACITOR		
	C 231	NCB31CK-104X	C CAPACITOR		
	C 232	NCB31CK-104X	C CAPACITOR		
	C 233	NCS31HJ-330X	C CAPACITOR		
	C 234	NCB31HK-331X	C CAPACITOR		
	C 235	NCB31CK-104X	C CAPACITOR		
	C 236	NCB31CK-823X	C CAPACITOR		
	C 237	NCB31CK-823X	C CAPACITOR		
	C 241	NCB31CK-104X	C CAPACITOR		
	C 242	NEA70JM-107X	E.CAPACITOR		
	C 262	NCB31EK-332X	C CAPACITOR		
	C 271	NCB31CK-104X	C CAPACITOR		
	C 273	NCB31HK-102X	C CAPACITOR		
	C 275	NCB31HK-102X	C CAPACITOR		
	C 276	NCB31CK-104X	C CAPACITOR		
	C 281	NEA70JM-226X	E CAPACITOR		
	C 282	NCB31CK-104X	C CAPACITOR		
	C 284	NCB31HK-102X	C CAPACITOR		
	C 286	NCB31HK-102X	C CAPACITOR		
	C 287	NCB31CK-104X	C CAPACITOR		
	C 288	NEA71CM-226X	E.CAPAP. C.M		
	C 290	NCB31CK-104X	C CAPACITOR		
	C 301	NCB31CK-104X	C CAPACITOR		
	C 302	NCB31CK-104X	C CAPACITOR		
	C 303	NCB31CK-104X	C CAPACITOR		
	C 304	NCB31CK-104X	C CAPACITOR		
	C 305	NCB31CK-104X	C CAPACITOR		
	C 306	NCB31CK-104X	C CAPACITOR		
	C 307	NCB31CK-104X	C CAPACITOR		
	C 308	NCB31CK-103X	C CAPACITOR		
	C 309	NCB31CK-104X	C CAPACITOR		
	C 310	NCB31CK-104X	C CAPACITOR		
	C 311	NCB31CK-104X	C CAPACITOR		
	C 314	NCB31CK-104X	C CAPACITOR		
	C 315	NCB31CK-104X	C CAPACITOR		
	C 316	NEA70JM-107X	E.CAPACITOR		
	C 317	NCB11CK-105X	C CAPACITOR		
	C 318	NCB31CK-104X	C CAPACITOR		
	C 319	NCB31CK-104X	C CAPACITOR		
	C 320	NCB31CK-104X	C CAPACITOR		
	C 321	NCB31CK-104X	C CAPACITOR		
	C 322	NEA70JM-107X	E.CAPACITOR		
	C 323	NCB11CK-105X	C CAPACITOR		
	C 324	NCB31CK-104X	C CAPACITOR		
	C 341	NCB31CK-104X	C CAPACITOR		
	C 342	NCB31CK-104X	C CAPACITOR		
	C 343	NCB31CK-104X	C CAPACITOR		
	C 344	NCB31CK-104X	C CAPACITOR		
	C 371	NCS31HJ-100X	C CAPACITOR		

■ Electrical parts list (Traverse mechanism control board) Block No. 02

△	Item	Parts number	Parts name	Remarks	Area	△	Item	Parts number	Parts name	Remarks	Area
	C 372	NCS31HJ-100X	C CAPACITOR				C 556	NEA70JM-107X	E.CAPACITOR		
	C 373	NCB31CK-104X	C CAPACITOR				C 557	NCB31CK-104X	C CAPACITOR		
	C 374	NCB31CK-104X	C CAPACITOR				C 561	NCB31CK-104X	C CAPACITOR		
	C 376	NCB31CK-104X	C CAPACITOR				C 562	NEA70JM-226X	E CAPACITOR		
	C 391	NCB31CK-104X	C CAPACITOR				C 563	NCB31CK-104X	C CAPACITOR		
	C 392	NEA70JM-226X	E CAPACITOR				C 564	NCB31CK-104X	C CAPACITOR		
	C 401	NCB31CK-104X	C CAPACITOR				C 565	NCB31CK-104X	C CAPACITOR		
	C 402	NCB31CK-104X	C CAPACITOR				C 566	NCB31CK-104X	C CAPACITOR		
	C 403	NEA70JM-226X	E CAPACITOR				C 567	NEA70JM-226X	E CAPACITOR		
	C 404	NCB31CK-104X	C CAPACITOR				C 568	NCB31CK-104X	C CAPACITOR		
	C 405	NCB31CK-104X	C CAPACITOR				C 569	NEA70JM-226X	E CAPACITOR		
	C 406	NCB31CK-104X	C CAPACITOR				C 570	NCB31CK-104X	C CAPACITOR		
	C 407	NCB31CK-104X	C CAPACITOR				CN101	QGF1016F2-19W	CONNECTOR	MECHA	
	C 408	NEA70JM-226X	E CAPACITOR				CN102	QGF1016C2-11W	CONNECTOR	SP&STP	
	C 409	NCB31CK-104X	C CAPACITOR				CN501	QGA2001F2-09X	CONNECTOR	POWER	
	C 411	NCB31CK-104X	C CAPACITOR				CN502	QGF1016F2-23W	CONNECTOR	SYSTEM	
	C 412	NCB31CK-104X	C CAPACITOR				CN503	QGF1016F2-09W	CONNECTOR C.M	VIDEO	
	C 441	NCB31CK-104X	C CAPACITOR				D 201	1SS355-X	DIODE		
	C 442	NEX40JM-156X	E.CAPACITOR				D 272	DAN202K-X	D.TRANSISTOR		
	C 452	NCB31CK-104X	C CAPACITOR				D 551	1SS355-X	DIODE		
	C 501	NCB31CK-104X	C CAPACITOR				D 552	1SS355-X	DIODE		
	C 502	NCB31CK-104X	C CAPACITOR				IC101	AN8706FHQ	IC		
	C 503	NCB31CK-104X	C CAPACITOR				IC102	RN5RZ20BA-X	IC		
	C 504	NCB31CK-104X	C CAPACITOR				IC201	MN67705EA	IC		
	C 505	NCB31CK-104X	C CAPACITOR				IC271	M56788FP-W	IC		
	C 506	NCB31CK-104X	C CAPACITOR				IC301	MN103007BGA	IC		
	C 507	NCB31CK-104X	C CAPACITOR				IC311	TC7SH08FU-X	IC		
	C 508	NCB31CK-104X	C CAPACITOR				IC312	TC7SH32FU-X	IC		
	C 509	NCB31CK-104X	C CAPACITOR				IC321	TC7WH74FU-X	IC		
	C 510	NCB31CK-104X	C CAPACITOR				IC322	TC74VHC00FT-X	IC		
	C 511	NCB31CK-104X	C CAPACITOR				IC371	TC7SHU04FU-X	IC(DIGITAL)		
	C 512	NCB31CK-104X	C CAPACITOR				IC372	TC7SHU04FU-X	IC(DIGITAL)		
	C 513	NCB31CK-104X	C CAPACITOR				IC374	TC7WH74FU-X	IC		
	C 514	NCB31CK-104X	C CAPACITOR				IC401	MN102L25GHB	IC C.M	u-h	
	C 515	NCB31CK-104X	C CAPACITOR				IC402	MSM531622F75G-X	IC C.M		
	C 516	NCB31CK-104X	C CAPACITOR				IC403	AK93C65AF-X	IC		
	C 517	NCB31CK-104X	C CAPACITOR				IC452	TC7WT125FU-X	IC(DIGITAL)		
	C 518	NCB31CK-104X	C CAPACITOR				IC501	ZIVA3-PE0	IC		
	C 519	NCB31CK-104X	C CAPACITOR				IC502	NAX0265-001X	IC	27MHZ	
	C 520	NCB31CK-104X	C CAPACITOR				IC503	TC74VHC00FT-X	IC		
	C 521	NCB31CK-104X	C CAPACITOR				IC504	KM416S1120DT-G8	IC		
	C 522	NCB31CK-104X	C CAPACITOR				IC505	KM416S1120DT-G8	IC		
	C 523	NCB31CK-104X	C CAPACITOR				IC554	MC44724AVFU	IC		
	C 524	NCB31CK-104X	C CAPACITOR				K 101	NQR0007-002X	FERRITE BEADS		
	C 525	NCB31CK-104X	C CAPACITOR				K 102	NQR0007-002X	FERRITE BEADS		
	C 526	NCB31CK-104X	C CAPACITOR				K 103	NQR0007-002X	FERRITE BEADS		
	C 527	NCB31CK-104X	C CAPACITOR				K 155	NQR0007-002X	FERRITE BEADS		
	C 528	NCB31CK-104X	C CAPACITOR				K 156	NQR0007-002X	FERRITE BEADS		
	C 529	NCB31CK-104X	C CAPACITOR				K 157	NQR0007-002X	FERRITE BEADS		
	C 530	NEA70JM-107X	E.CAPACITOR				K 158	NQR0007-002X	FERRITE BEADS		
	C 531	NCB31CK-104X	C CAPACITOR				K 159	NQR0007-002X	FERRITE BEADS		
	C 532	NCB31CK-104X	C CAPACITOR				K 160	NQR0007-002X	FERRITE BEADS		
	C 533	NCB31CK-104X	C CAPACITOR				K 201	NQR0007-002X	FERRITE BEADS		
	C 534	NEA70JM-107X	E.CAPACITOR				K 202	NQR0007-002X	FERRITE BEADS		
	C 535	NCB31CK-104X	C CAPACITOR				K 271	NQR0007-002X	FERRITE BEADS		
	C 536	NCB31CK-103X	C CAPACITOR				K 301	NQR0007-002X	FERRITE BEADS		
	C 537	NEA70JM-226X	E CAPACITOR				K 302	NQR0007-002X	FERRITE BEADS		
	C 538	NCB31CK-104X	C CAPACITOR				K 371	NQR0007-002X	FERRITE BEADS		
	C 539	NCB31CK-104X	C CAPACITOR				K 401	NQR0007-002X	FERRITE BEADS		
	C 540	NEA70JM-226X	E CAPACITOR				K 402	NQR0007-002X	FERRITE BEADS		
	C 541	NCB31CK-104X	C CAPACITOR				K 501	NQR0007-002X	FERRITE BEADS		
	C 542	NEA70JM-226X	E CAPACITOR				K 502	NQR0007-002X	FERRITE BEADS		
	C 543	NCB31CK-104X	C CAPACITOR				K 503	NQR0007-002X	FERRITE BEADS		

■ Electrical parts list (Traverse mechanism control board) Block No. 02

△	Item	Parts number	Parts name	Remarks	Area
	K 504	NQR0201-001X	FERRITE BEADS		
	K 505	NQR0269-001X	FERRITE BEADS		
	K 506	NQR0007-002X	FERRITE BEADS		
	K 550	NQR0007-002X	FERRITE BEADS		
	K 551	NQR0007-002X	FERRITE BEADS		
	K 553	NQR0007-002X	FERRITE BEADS		
	K 554	NQR0007-002X	FERRITE BEADS		
	K 555	NQR0007-002X	FERRITE BEADS		
	K 556	NQR0007-002X	FERRITE BEADS		
	K 557	NQR0007-002X	FERRITE BEADS		
	K 558	NQR0007-002X	FERRITE BEADS		
	K 559	NQR0007-002X	FERRITE BEADS		
	K 561	NQR0007-002X	FERRITE BEADS		
	K 562	NQR0007-002X	FERRITE BEADS		
	K 563	NQR0007-002X	FERRITE BEADS		
	K 564	NQR0007-002X	FERRITE BEADS		
	K 565	NQR0007-002X	FERRITE BEADS		
	K 566	NQR0007-002X	FERRITE BEADS		
	K 567	NQR0007-002X	FERRITE BEADS		
	K 568	NQR0007-002X	FERRITE BEADS		
	K 569	NQR0007-002X	FERRITE BEADS		
	K 570	NQR0007-002X	FERRITE BEADS		
	K 571	NQR0007-002X	FERRITE BEADS		
	K 572	NQR0007-002X	FERRITE BEADS		
	K 574	NQR0007-002X	FERRITE BEADS		
	K 575	NQR0007-002X	FERRITE BEADS		
	K 576	NQR0007-002X	FERRITE BEADS		
	K 577	NQR0007-002X	FERRITE BEADS		
	K 578	NQR0007-002X	FERRITE BEADS		
	K 579	NQR0007-002X	FERRITE BEADS		
	K 580	NQR0007-002X	FERRITE BEADS		
	K 581	NQR0007-002X	FERRITE BEADS		
	L 191	NQL044K-100X	INDUCTOR		
	L 241	NQL044K-100X	INDUCTOR		
	Q 101	2SB1424/QR/-X	TRANSISTOR		
	Q 102	DTC124EE-X	DIGI TRANSISTOR		
	Q 103	DTA124EE-X	DIGI TRANSISTOR		
	Q 104	DTC124EE-X	DIGI TRANSISTOR		
	Q 105	DTC144EE-X	TRANSISTOR		
	Q 251	DTC144EE-X	TRANSISTOR		
	Q 252	DTA144EE-X	DIGI TRANSISTOR		
	Q 254	DTC144EE-X	TRANSISTOR		
	R 101	NRS125J-270X	MG RESISTOR		
	R 102	NRS125J-2R2X	MG RESISTOR		
	R 103	NRSA63J-123X	MG RESISTOR		
	R 104	NRSA63J-103X	MG RESISTOR		
	R 106	NRSA63J-223X	MG RESISTOR		
	R 108	NRSA63J-103X	MG RESISTOR		
	R 109	NRSA63J-823X	MG RESISTOR		
	R 110	NRSA63J-393X	MG RESISTOR		
	R 112	NRVA63D-123X	MG RESISTOR		
	R 113	NRSA63J-393X	MG RESISTOR		
	R 114	NRSA63J-272X	MG RESISTOR		
	R 115	NRSA63J-223X	MG RESISTOR		
	R 116	NRSA63J-103X	MG RESISTOR		
	R 117	NRSA63J-223X	MG RESISTOR		
	R 118	NRSA63J-153X	MG RESISTOR		
	R 119	NRSA63J-155X	MG RESISTOR		
	R 120	NRVA63D-332X	MF RESISTOR		
	R 121	NRSA63J-474X	MG RESISTOR		
	R 122	NRSA63J-474X	MG RESISTOR		
	R 123	NRSA63J-822X	MG RESISTOR		
	R 124	NRSA63J-183X	MG RESISTOR		

△	Item	Parts number	Parts name	Remarks	Area
	R 125	NRSA63J-154X	MG RESISTOR		
	R 126	NRSA63J-564X	MG RESISTOR		
	R 127	NRSA63J-123X	MG RESISTOR		
	R 128	NRSA63J-223X	MG RESISTOR		
	R 129	NRSA63J-103X	MG RESISTOR		
	R 130	NRSA63J-822X	MG RESISTOR		
	R 131	NRSA63J-0R0X	MG RESISTOR		
	R 201	NRSA63J-102X	MG RESISTOR		
	R 202	NRSA63J-102X	MG RESISTOR		
	R 203	NRSA63J-102X	MG RESISTOR		
	R 204	NRSA63J-102X	MG RESISTOR		
	R 205	NRSA63J-473X	MG RESISTOR		
	R 206	NRSA63J-103X	MG RESISTOR		
	R 207	NRSA63J-473X	MG RESISTOR		
	R 209	NRSA63J-473X	MG RESISTOR		
	R 210	NRSA63J-473X	MG RESISTOR		
	R 211	NRSA63J-102X	MG RESISTOR		
	R 212	NRSA63J-102X	MG RESISTOR		
	R 213	NRSA63J-183X	MG RESISTOR		
	R 214	NRSA63J-822X	MG RESISTOR		
	R 215	NRSA63J-473X	MG RESISTOR		
	R 216	NRSA63J-473X	MG RESISTOR		
	R 217	NRSA63J-0R0X	MG RESISTOR		
	R 218	NRSA63J-0R0X	MG RESISTOR		
	R 219	NRSA63J-0R0X	MG RESISTOR		
	R 220	NRSA63J-472X	MG RESISTOR		
	R 221	NRSA63J-0R0X	MG RESISTOR		
	R 222	NRSA63J-0R0X	MG RESISTOR		
	R 223	NRSA63J-0R0X	MG RESISTOR		
	R 224	NRSA63J-0R0X	MG RESISTOR		
	R 225	NRSA63J-0R0X	MG RESISTOR		
	R 226	NRSA63J-0R0X	MG RESISTOR		
	R 227	NRSA63J-0R0X	MG RESISTOR		
	R 228	NRSA63J-103X	MG RESISTOR		
	R 229	NRSA63J-0R0X	MG RESISTOR		
	R 230	NRSA63J-103X	MG RESISTOR		
	R 231	NRVA63D-683X	MF RESISTOR		
	R 232	NRVA63D-683X	MF RESISTOR		
	R 233	NRSA63J-103X	MG RESISTOR		
	R 234	NRSA63J-103X	MG RESISTOR		
	R 235	NRSA63J-473X	MG RESISTOR		
	R 236	NRSA63J-123X	MG RESISTOR		
	R 237	NRSA63J-0R0X	MG RESISTOR		
	R 238	NRSA63J-223X	MG RESISTOR		
	R 239	NRSA63J-333X	MG RESISTOR		
	R 240	NRSA63J-333X	MG RESISTOR		
	R 241	NRVA63D-362X	MG RESISTOR		
	R 242	NRSA63J-102X	MG RESISTOR		
	R 243	NRSA63J-472X	MG RESISTOR		
	R 244	NRSA63J-102X	MG RESISTOR		
	R 245	NRVA63D-123X	MG RESISTOR		
	R 247	NRVA63D-123X	MG RESISTOR		
	R 249	NRSA63J-102X	MG RESISTOR		
	R 251	NRVA63D-123X	MG RESISTOR		
	R 252	NRVA63D-123X	MG RESISTOR		
	R 253	NRVA63D-123X	MG RESISTOR		
	R 254	NRVA63D-123X	MG RESISTOR		
	R 257	NRSA63J-103X	MG RESISTOR		
	R 266	NRSA63J-223X	MG RESISTOR		
	R 268	NRSA63J-563X	MG RESISTOR		
	R 269	NRSA63J-0R0X	MG RESISTOR		
	R 270	NRSA63J-393X	MG RESISTOR		
	R 271	NRSA63J-243X	MG RESISTOR		

■ Electrical parts list (Traverse mechanism control board) Block No. 02

△	Item	Parts number	Parts name	Remarks	Area	△	Item	Parts number	Parts name	Remarks	Area
	R 272	NRSA63J-103X	MG RESISTOR				R 506	NRSA63J-330X	MG RESISTOR		
	R 273	NRSA63J-103X	MG RESISTOR				R 507	NRSA63J-330X	MG RESISTOR		
	R 275	NRSA63J-243X	MG RESISTOR				R 508	NRSA63J-330X	MG RESISTOR		
	R 276	NRSA63J-103X	MG RESISTOR				R 509	NRSA63J-330X	MG RESISTOR		
	R 277	NRSA63J-103X	MG RESISTOR				R 510	NRSA63J-330X	MG RESISTOR		
	R 278	NRSA63J-223X	MG RESISTOR				R 511	NRSA63J-330X	MG RESISTOR		
	R 279	NRSA63J-223X	MG RESISTOR				R 512	NRSA63J-330X	MG RESISTOR		
	R 282	NRSA63J-223X	MG RESISTOR				R 513	NRSA63J-330X	MG RESISTOR		
	R 283	NRSA63J-103X	MG RESISTOR				R 514	NRSA63J-330X	MG RESISTOR		
	R 284	NRSA63J-103X	MG RESISTOR				R 515	NRSA63J-330X	MG RESISTOR		
	R 285	NRSA63J-0R0X	MG RESISTOR				R 516	NRSA63J-330X	MG RESISTOR		
	R 286	NRSA63J-223X	MG RESISTOR				R 517	NRSA63J-330X	MG RESISTOR		
	R 287	NRSA63J-103X	MG RESISTOR				R 518	NRSA63J-330X	MG RESISTOR		
	R 288	NRSA63J-103X	MG RESISTOR				R 519	NRSA63J-330X	MG RESISTOR		
	R 290	NRSA63J-0R0X	MG RESISTOR				R 520	NRSA63J-330X	MG RESISTOR		
	R 301	NRSA63J-473X	MG RESISTOR				R 521	NRSA63J-330X	MG RESISTOR		
	R 302	NRSA63J-473X	MG RESISTOR				R 522	NRSA63J-330X	MG RESISTOR		
	R 303	NRSA63J-473X	MG RESISTOR				R 523	NRSA63J-181X	MG RESISTOR		
	R 304	NRSA63J-473X	MG RESISTOR				R 524	NRSA63J-181X	MG RESISTOR		
	R 305	NRSA63J-473X	MG RESISTOR				R 525	NRSA63J-181X	MG RESISTOR		
	R 306	NRSA63J-473X	MG RESISTOR				R 526	NRSA63J-181X	MG RESISTOR		
	R 307	NRSA63J-473X	MG RESISTOR				R 527	NRSA63J-181X	MG RESISTOR		
	R 308	NRSA63J-473X	MG RESISTOR				R 528	NRSA63J-181X	MG RESISTOR		
	R 310	NRSA63J-102X	MG RESISTOR				R 529	NRSA63J-181X	MG RESISTOR		
	R 311	NRSA63J-102X	MG RESISTOR				R 530	NRSA63J-181X	MG RESISTOR		
	R 312	NRSA63J-102X	MG RESISTOR				R 531	NRSA63J-330X	MG RESISTOR		
	R 313	NRSA63J-0R0X	MG RESISTOR				R 532	NRSA63J-0R0X	MG RESISTOR		
	R 314	NRSA63J-0R0X	MG RESISTOR				R 533	NRSA63J-330X	MG RESISTOR		
	R 315	NRSA63J-0R0X	MG RESISTOR				R 534	NRSA63J-330X	MG RESISTOR		
	R 317	NRSA63J-473X	MG RESISTOR				R 535	NRSA63J-330X	MG RESISTOR		
	R 318	NRSA63J-0R0X	MG RESISTOR				R 536	NRSA63J-330X	MG RESISTOR		
	R 319	NRSA63J-0R0X	MG RESISTOR				R 537	NRSA63J-330X	MG RESISTOR		
	R 322	NRSA63J-473X	MG RESISTOR				R 538	NRSA63J-330X	MG RESISTOR		
	R 324	NRSA63J-473X	MG RESISTOR				R 539	NRSA63J-330X	MG RESISTOR		
	R 328	NRSA63J-473X	MG RESISTOR				R 540	NRSA63J-330X	MG RESISTOR		
	R 342	NRSA63J-0R0X	MG RESISTOR				R 541	NRSA63J-0R0X	MG RESISTOR		
	R 343	NRSA63J-102X	MG RESISTOR				R 542	NRSA63J-0R0X	MG RESISTOR		
	R 371	NRSA63J-105X	MG RESISTOR				R 543	NRSA63J-0R0X	MG RESISTOR		
	R 372	NRSA63J-101X	MG RESISTOR				R 544	NRSA63J-0R0X	MG RESISTOR		
	R 373	NRSA63J-0R0X	MG RESISTOR				R 545	NRSA63J-472X	MG RESISTOR		
	R 403	NRSA63J-472X	MG RESISTOR				R 546	NRSA63J-332X	MG RESISTOR		
	R 405	NRSA63J-472X	MG RESISTOR				R 547	NRSA63J-222X	MG RESISTOR		
	R 408	NRSA63J-472X	MG RESISTOR				R 548	NRSA63J-332X	MG RESISTOR		
	R 410	NRSA63J-0R0X	MG RESISTOR				R 550	NRSA63J-0R0X	MG RESISTOR		
	R 411	NRSA63J-472X	MG RESISTOR				R 564	NRVA63D-152X	MG RESISTOR		
	R 412	NRSA63J-103X	MG RESISTOR				R 565	NRVA63D-332X	MF RESISTOR		
	R 413	NRSA63J-472X	MG RESISTOR				R 571	NRSA63J-100X	MG RESISTOR		
	R 414	NRSA63J-472X	MG RESISTOR				R 572	NRSA63J-181X	MG RESISTOR		
	R 415	NRSA63J-472X	MG RESISTOR				R 573	NRSA63J-181X	MG RESISTOR		
	R 416	NRSA63J-472X	MG RESISTOR				R 574	NRSA63J-181X	MG RESISTOR		
	R 418	NRSA63J-472X	MG RESISTOR				R 575	NRSA63J-181X	MG RESISTOR		
	R 420	NRSA63J-0R0X	MG RESISTOR				R 576	NRSA63J-181X	MG RESISTOR		
	R 422	NRSA63J-0R0X	MG RESISTOR				R 577	NRSA63J-181X	MG RESISTOR		
	R 423	NRSA63J-0R0X	MG RESISTOR				R 578	NRSA63J-181X	MG RESISTOR		
	R 424	NRSA63J-0R0X	MG RESISTOR				R 579	NRSA63J-181X	MG RESISTOR		
	R 431	NRSA63J-472X	MG RESISTOR				R 580	NRSA63J-181X	MG RESISTOR		
	R 432	NRSA63J-472X	MG RESISTOR				R 581	NRSA63J-101X	MG RESISTOR		
	R 461	NRSA63J-0R0X	MG RESISTOR				R 582	NRSA63J-0R0X	MG RESISTOR		
	R 462	NRSA63J-0R0X	MG RESISTOR				R 586	NRVA63D-122X	MG RESISTOR		
	R 501	NRSA63J-102X	MG RESISTOR				R 587	NRVA63D-122X	MG RESISTOR		
	R 502	NRSA63J-222X	MG RESISTOR				R 588	NRVA63D-102X	CMF RESISTOR		
	R 503	NRSA63J-103X	MG RESISTOR				R 589	NRVA63D-102X	CMF RESISTOR		
	R 504	NRSA63J-330X	MG RESISTOR				X 371	NAX0277-002X	CRYSTAL		
	R 505	NRSA63J-330X	MG RESISTOR				X 401	NAX0331-001X	C RESONATOR		

Block No. 03

■ Electrical parts list (DVD changer mechanism switch board)

△	Item	Parts number	Parts name	Remarks	Area
	CN804	QGB2016J1-07	CONNECTOR		
	SW 1	QSW0507-001	SWITCH		
	SW 2	QSW0507-001	SWITCH		
	SW 3	QSW0507-001	SWITCH		
	SW 4	QSW0507-001	SWITCH		
	SW 5	QSW0507-001	SWITCH		
	SW 6	QSW0507-001	SWITCH		

■ Electrical parts list (Mechanism control board)

Block No. 04

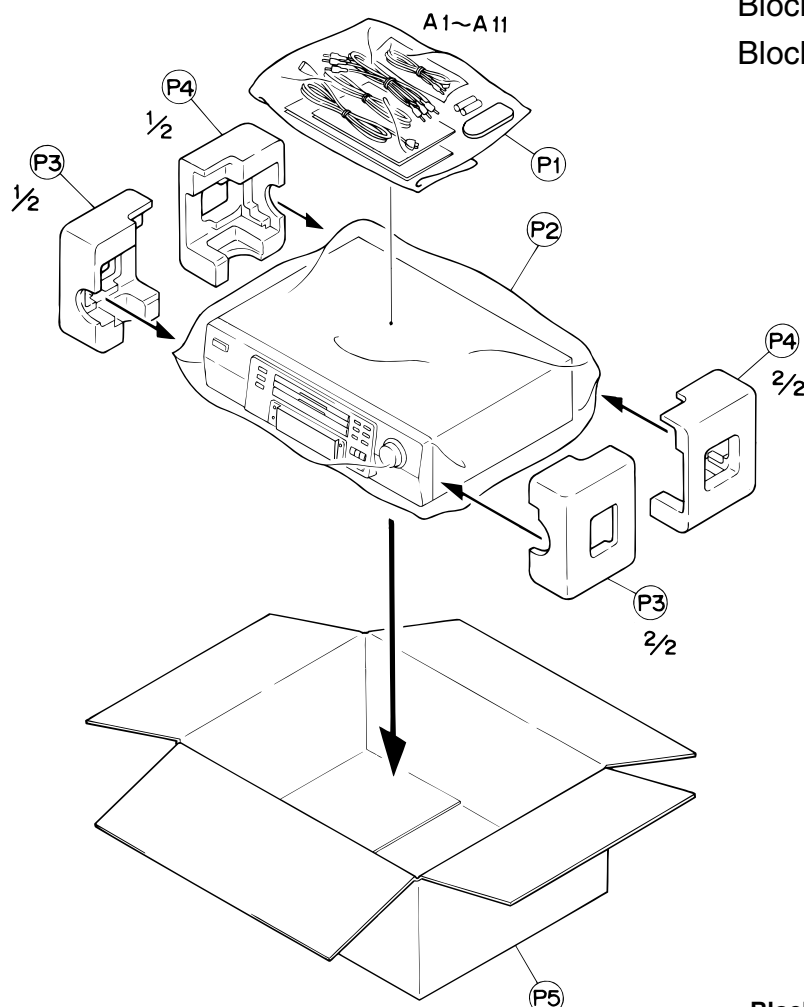
△	Item	Parts number	Parts name	Remarks	Area
	C 801	QEK41AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 802	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C 803	QFLC1HJ-102Z	M CAPACITOR	1000PF 5% 50V	
	C 804	QCFB1HZ-104Y	C CAPACITOR	.10MF +80% -20%	
	C 805	QDYB1CM-103Y	C CAPACITOR		
	C 806	QEK41CM-476	E CAPACITOR	47MF 20% 16V	
	C 807	QEK41CM-476	E CAPACITOR	47MF 20% 16V	
	C 808	QFLC1HJ-102Z	M CAPACITOR	1000PF 5% 50V	
	C 810	QCZ0205-155Z	ML C CAP I/M	1.5MF	
	C 811	QCZ0205-155Z	ML C CAP I/M	1.5MF	
	C 813	QDYB1CM-103Y	C CAPACITOR		
	C 821	QDGB1HK-102Y	C CAPACITOR		
	CN801	QGF1205F1-10	CONNECTOR	TO MICON	
	CN802	QGB2016K1-07	CONNECTOR	TO SWITCH PWB	
	CN803	QGB2012K2-10	CONNECTOR	TO CAM SW PWB	
△	IC801	UPD65612GB-208	IC		
△	IC802	TA8409S	IC		
△	IC803	TA8409S	IC		
	L 801	QQL231K-100Y	INDUCTOR		
	L 802	QQL01BK-100Z	INDUCTOR		
	L 803	QQL01BK-100Z	INDUCTOR		
	L 804	QQL01BK-100Z	INDUCTOR		
	R 805	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 806	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R 807	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R 808	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 810	QRE141J-684Y	C RESISTOR	680K 5% 1/4W	
	R 811	QRE141J-105Y	C RESISTOR	1.0M 5% 1/4W	
	R 813	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 814	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 815	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 816	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 817	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 818	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 819	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 820	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 821	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 822	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 823	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 824	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 825	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 826	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 827	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 828	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 829	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 830	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 832	QRE141J-181Y	C RESISTOR	180 5% 1/4W	
	R 833	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 834	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 838	QRE141J-272Y	C RESISTOR	2.7K 5% 1/4W	
	R 839	QRE141J-332Y	C RESISTOR	3.3K 5% 1/4W	
	R 840	QRE141J-562Y	C RESISTOR	5.6K 5% 1/4W	

■ Electrical parts list (Conection board)

Block No. 05

△	Item	Parts number	Parts name	Remarks	Area
	C 13	NCS21HJ-101X	C CAPACITOR		
	C 14	NCS21HJ-101X	C CAPACITOR		
	CN 10	QGF1030F1-19	FFC/FPC CONNE		
	CN 11	QGF1016F3-11	CONNECTOR		
	CN 12	QGF1030F1-21	FFC/FPC CONNE		
	CN 13	QGF1030F1-07	FFC/FPC CONNE		
	CN 14	VMC0159-002	SHORT CONNECTOR		
	CN 24	VMC0160-001	SHORT SOCKET	FOR CN14	
	K 10	NQR0007-002X	F.BEADS C.M		
	K 11	NQR0007-002X	F.BEADS C.M		
	K 12	NQR0007-002X	F.BEADS C.M		
	K 13	NQR0007-002X	F.BEADS C.M		
	K 14	NQR0007-002X	F.BEADS C.M		
	K 15	NQR0007-002X	F.BEADS C.M		
	K 16	NQR0007-002X	F.BEADS C.M		
	K 17	NQR0007-002X	F.BEADS C.M		
	R 10	NRSA02J-911X	MG RESISTOR		
	S 10	QSW0620-001	SWITCH		

Packing materials and accessories parts list

Block No. M 4 M MBlock No. M 5 M M

■ Packing list

Block No. M4MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	P 1	QPA02503505P	POLY BAG	1	ACCESSORY A	
	P 2	QPC06506515P	POLY BAG	1	FOR SET	
	P 3	LV20509-201A	CUSHION (F)	1	FRONT	
	P 4	LV20510-201A	CUSHION (R)	1	REAR	
	P 5	LV20822-001A	CARTON BOX	1	XV-M565BK	
		LV20822-008A	PACKING CASE	1	XV-M567GD	

■ Accessory list

Block No. M5MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	A 1	LVT0521-001A	INST BOOK	1		J
		LVT0521-002A	INST.BOOK	1	XV-M565BK	C
	A 2	BT-51020-2	J=REGIST CARD	1		
⚠	A 3	YU20333	SAFETY INST.	1		
⚠	A 4	QMPE090-183-JD	POWER CORD	1		
	A 5	BT-52004-1	WARRANTY CARD	1	XV-M565BK	C
	A 6	EWP805-014	1P PLUG CORD(JE	1		
	A 7	QAM0004-002	S-VIDEO CORD	1		
	A 8	QAM0218-001	A/V CABLE	1		
	A 9	RM-SXVM567J	REMOCON UNIT	1	XV-M567GD	
		RM-SXVM565J	REMOCON UNIT	1	XV-M565BK	
	A 10	-----	BATTERY	2		
	A 11	BT-20071B	SVC-CENTER LIST	1	XV-M565BK	C